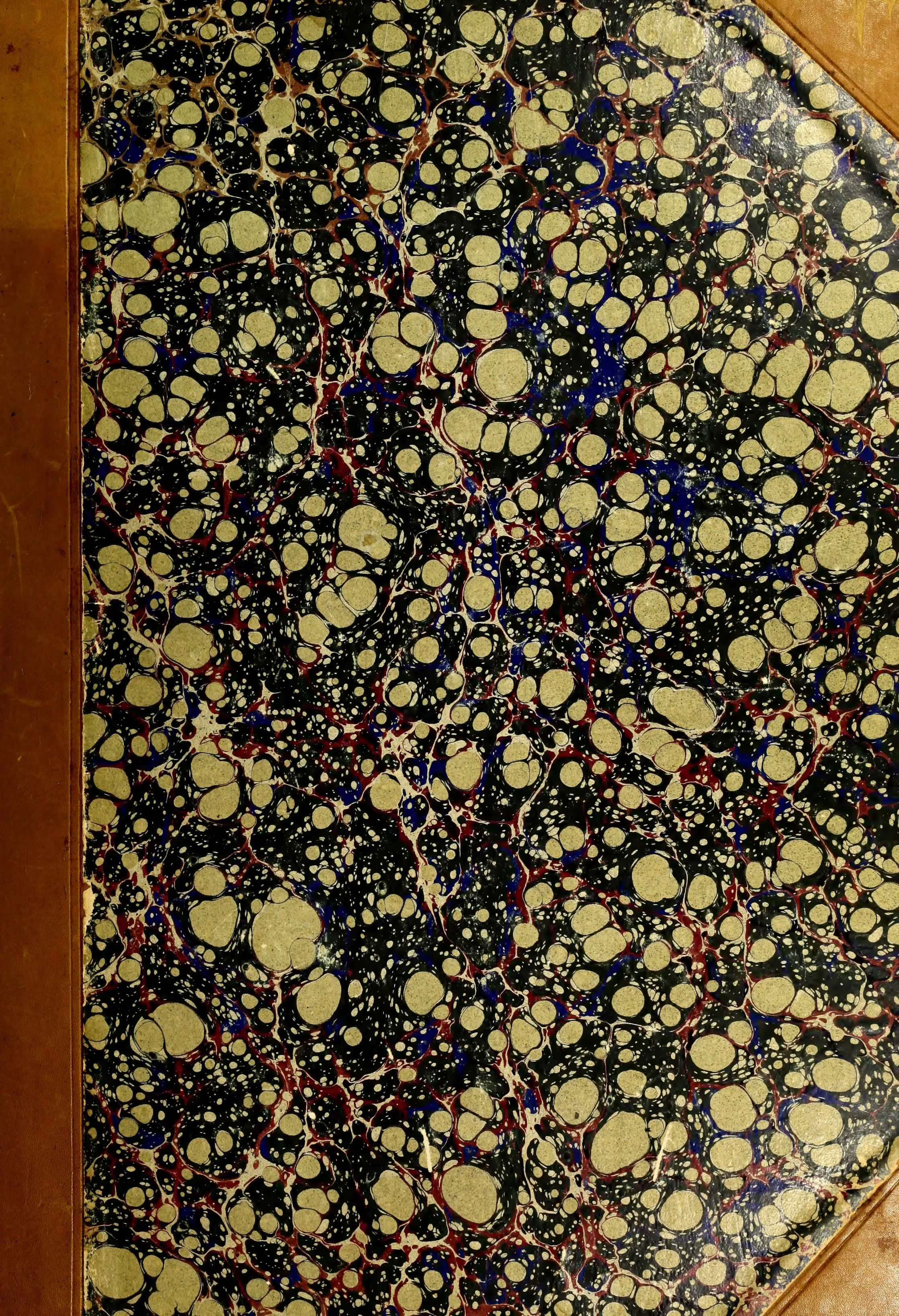

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The American Garden
W.H.Gibson del.

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The American Garden.

A QUARTERLY ILLUSTRATED JOURNAL.

Devoted to the Gardening Interests of America.

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DR. F. M. HEXAMER, : : : Editor.

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TO OUR READERS.

With this number closes the first volume of THE AMERICAN GARDEN, under its new management, and we may, with some satisfaction, look over the work accomplished, for we are convinced that few, if any, of our readers have not derived pleasure or information from its pages. No class of business men scrutinizes the columns of a paper more critically than advertisers, and we may, with gratification, refer to our advertising pages for a larger list of advertisements of the highest character, and representing more varied interests, than can be found in any similar publication. This evident recognition of the worth and popularity of our paper will add increased energy and strength to the year's work before us.

With the next volume we shall present to all subscribers A BEAUTIFUL COLORED PLATE OF A GROUP OF PANSIES, a real work of art and an appropriate ornament to any drawing room. In addition we offer to every subscriber, as a premium, his choice of either of the following seeds, on each package of which directions for their cultivation are given.

Pansy Seeds, a package of twenty-five seeds of the varieties represented in our plate.

Wild Garden Seeds, a package containing a mixture of upward of one hundred varieties of Flower Seeds, sufficient for a square rod of ground.

Bliss' American Wonder Peas, a trial package of this peerless variety.

The value of the picture and a package of Premium Seeds is more than the subscription price, so that no one subscribing for THE AMERICAN GARDEN can receive less than his money's worth.

Will our readers do us the favor to let their friends share the benefits of these generous offers; will they kindly show this number to those of their friends who are interested in gardening and ask them to become subscribers. All new subscribers who will send now their subscriptions for the next volume will receive this number without charge.

Short, concise articles on horticultural matters, and reports of practical experiments and experiences in the garden, will be thankfully received and appropriately acknowledged.

WINTER GARDENING.

One of the greatest charms, and indeed most of the ennobling influences of gardening, consist in the constant contact and communion with nature, into which it necessarily brings us. The care of plants—whether it is the stately Palm and marvelous Orchid in the luxurious conservatory, fragrant with tropical perfumes, or the lowly Turnip and Cabbage in the kitchen garden—leads us, with every step, to the study of nature, its influences and laws; it sharpens our observation, quickens our perceptions, enlightens our judgment, and brightens our hopes; it teaches us patience combined with perseverance, and develops the most tender, as well as the most noble, sentiments of the human heart.

Now, at the beginning of a new year, although our out-door gardens do not present the brilliant hues nor the grand luxuriance of the summer months, there remains enough to link our memories of the past with the hopes and anticipations for our future endeavors.

Our shrubs and trees, while resting from their year's work, are not idle in collecting new material for further development. The forms and individual characteristics of each one can now, while denuded of their foliage, be studied much better than in summer, so that a judicious system of pruning and training may be decided upon. The Hyacinths and Tulips which we planted a month or two ago, are slowly and steadily extending their roots, gathering strength under the friendly shelter of evergreen boughs and snow, to unfold their brilliant flowers as soon as the life-giving rays of the spring sun bid them to rise. In the loosened soil the silent forces of nature are ever busy by disintegration, decomposition, and combination, and by absorption from the air, to replenish the spent fertility of the garden and field.

In like measure the mission of these long winter months seems to be to refresh and strengthen our languishing energies and overtaxed minds, to develop and mature plans for the future and to garner strength and vigor for their successful carrying out. Without forethought, carefully matured plans, and sufficient preparation, permanent success is never obtained in anything.

The Vegetable Garden.

SEASONABLE HINTS.

The saving and accumulating of fertilizers of all kinds should be made the special work of the winter months. Manure from the stables, muck from the swamps, leaf mold from the woods, ashes, poultry-house sweepings, all are valuable in the garden, but "no manure pays as well as brains." This kind of manuring the garden has to be applied now, before the commercial fertilizers are spread and worked under, and the seeds entrusted to the soil.

All plans for the coming season should now be made and worked out, not only in the mind, but on paper also. A sketch or map of the ground to be planted, no matter how roughly drawn, with all the rows marked out and the name of every kind of vegetable to be planted, written down at its appropriate place, facilitates spring work astonishingly. With such a map, the varieties and quantities of seeds required can be selected with more care and satisfaction, and may be procured early enough to avoid hurry and disappointment.

Cold Frames should be examined frequently and opened on all warm days ; the object being to keep the plants dormant, not growing.

Roots in pits, if not already sufficiently protected, should be covered enough to exclude the severest freezing. Roots in cellars have to be looked after occasionally, and all those showing signs of decay should be removed at once.

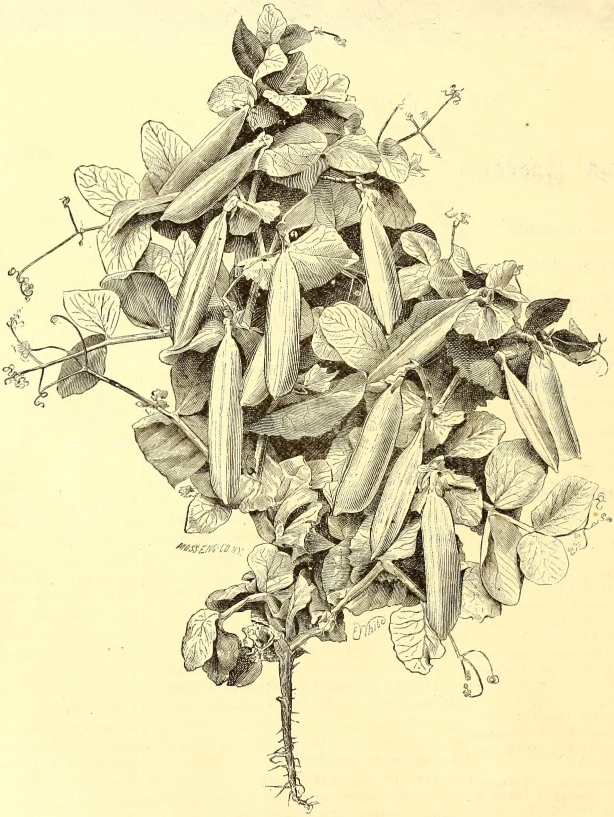
Bean Poles and *Pea Brush* are easier cut now than when leaves are on the bushes. A sufficient quantity should be secured during the winter, pointed and stored under shelter, ready for use. Poles last much longer for being seasoned.

Wood Ashes, especially from hard wood, contain much fertilizing material ; they should be saved carefully and kept under shelter ; when exposed to rains, much of their value leaches out and becomes lost. For Potatoes and all root crops ashes are a most valuable fertilizer. Coal Ashes are beneficial on heavy land, where their use helps to lighten and loosen the soil, otherwise they are of little fertilizing value.

Winter Protection of Vegetables.—Boughs of evergreens make the very best covering for Spinach, Corn Salad, Parsnips, Salsify, and other hardy vegetables remaining in the ground.

DWARF PEAS.

The great advantage of Dwarf Peas in not requiring "brushing" has always made them favorites in the garden. From the days of the "Dwarf Spanish" and "Early Frame," although gradual improvements have been made in this class, no variety was found to combine all the desirable qualities, until Mr. Charles Arnold, who has made hybridizing and crossing a specialty, succeeded in producing a variety—Bliss' American Wonder—which leaves nothing to be desired. It is a cross between "Little Gem" and "Champion of England" and combines in an exceptional degree the good qualities of both its parents: dwarf habit, earliness, productiveness, hardiness and excellent quality. Our illustration is taken from a photograph, reduced to one-half its actual size and gives an excellent representation of the habit and productiveness of the plant. It is so dwarf and bushy as not to require more space between the rows than Lettuce or Radishes, and its great earliness admits of the raising of several crops from the same ground, in one season, furnishing more Peas from the same area than any other kind. For forcing under glass and as a very early garden variety it has no superior, and, taking all its desirable qualities together, if we were restricted to the planting of one single kind of Peas, we should choose "Bliss' American Wonder."



BLISS' AMERICAN WONDER PEA

HOT BEDS.

The numerous devices that have come up from time to time, and found their way into print, for starting vegetable plants in dwelling houses for family use by means of artificial heat, have not been successful. Up to this time the only reliable, and certainly the cheapest plan is the old fashioned hot bed, a plan that comes within the reach of every one, no matter whether his garden is large or small. To make and take care of these, does not call for the aid or presence of an experienced gardener, while the outlay in getting two or three sashes, and making a coarse board frame is a mere trifle when compared with the benefit, as well as the pleasure, of having, when the time comes, a bountiful supply of Tomatoes, Egg Plants, Lettuce, Cabbage, Cauliflowers, and Peppers to stock the kitchen garden. In a thickly populated neighborhood, one can often sell enough of those plants to cover all the expense of raising them besides having an abundance for their own use free of cost. This I know to be the case in several instances coming under my observation during the past few years, and I mention it here with the hope that it may be an incentive for others to go and do likewise.

The time of starting a hot bed depends more or less on the locality. In the Southern and Middle States any time between the 10th and 20th of February will be found about right. A couple of weeks prior to these dates some horse manure should be put aside, having the coarser parts of the bedding taken out. If dry the manure should be made damp by throwing on some water to encourage fermentation. The heap should be turned over once or twice before using, to prevent "*fire-fanging*," as it is commonly termed, and have the whole mass of even temperature, and thoroughly hot without burning.

In selecting a spot for a hot bed the exposure should be east or south-east and at the same time have the bed protected from the north or west winds, either by a building or board fence.

The ordinary sash is made 3x6 and two of these will give ample space for a family garden. Instead of making the bed on the surface level, it will be found more economical to excavate the soil from the intended space 6x6, to the depth say of eighteen inches. The manure may then be put in place, in thickness about two and a half feet, spread evenly and packed down firmly. The frame may then be set on top. This is made of rough boards, one in front and two in the rear, level on the bottom and slanting on top, enough so, to cast water easily when the sashes are put on. As soon as the frame is in place another layer of six or eight inches of manure may be put inside of the frame and a wall of manure built up around the outside of the board frame to protect against frost. The sashes may then be set on, and at night covered with straw mats or something else that will answer the same purpose. In two or three days the bed will be hot enough to put on the soil, which should not be less than eight inches in depth all over the bed. To heat this soil will take two or three days' time. When this is accomplished, the seed may be sown. To do this remove the sash, turn the soil over and rake the surface level. Then open shallow drills, running from front to rear, and not more than four inches apart. In these drills, each sort of seed may be sown, putting the Tomatoes, Egg-plants and Peppers in the middle drills, for they need more heat than the others. Cover the seed lightly and label each kind at the same time. The sashes may then be replaced, and if the weather is very cold cover the sashes over at night to protect against frost. During the day time this covering should be removed unless the weather is stormy. In a very few days from the time of sowing, if the seeds are fresh, they will germinate, and from then on the main point is to give the plants air freely, in the middle of the day, to prevent them from growing spindling. As a matter of course, care will have to be exercised in doing this to keep the cold air from striking the young and tender plants, and to avoid opening the sashes too early in the morning. In case the surface of the bed should get dry, an occasional watering will be necessary. In doing this use an ordinary watering pot, with a fine nose, and always with tepid water. A month from the time the seed was sown, under ordinary circumstances, the plants will be large enough to prick out in the second frame or rather the second sash, for one of these will give more plants than will supply a dozen or more families. When planted in the second bed, shade for a few days until they take root. From then on give these plants plenty of air every pleasant day, and they may need watering once or twice a week until the fine weather sets in. Instead of planting in the ordinary way, the Egg-plants and Tomatoes may be put in "thumb pot" and placed close together under the second sash. If the latter plan is followed the plants will need more frequent watering until they are transplanted in the open ground. It may be well to mention the fact that the soil for the seed and transplanting beds, as well as for the pots, should be rich and of good quality and, if convenient, run through a coarse sieve before used for the purposes named.

Besides the purposes named a bed such as described can be used to advantage, later in the season, for starting Melons, Cucumbers and Lima Beans.

A Compost Heap should be a permanent institution in every garden, and it will be found surprising how much fertilizing matter can be accumulated during a year. Such a structure need not present an unsightly or objectionable appearance; it may be built behind some hedge or in a fence corner and protected from sight by a few Evergreens.

THE BIGGEST POTATO STORY.

Under this heading there is, in several agricultural papers, a good deal of animated discussion going on just now, to find out who has grown the largest quantity of Potatoes from one pound of seed. One of the rival candidates has obtained 36 pounds from one tuber, another 69 pounds from one tuber, but when 118 and 142 pounds were grown from one pound of seed it was enough to cause considerable stir in a quiet New England town. These figures, however, seemed only ridiculous beginnings to the man who raised 200 pounds from one, "and how it made him laugh," but when another beats all this and digs 2 barrels (320 pounds) of Potatoes from one pound of seed planted—"and did not half try" —he was considerate enough to advise his rivals "not to cry" and challenge the world "to beat this if it can."

Where have all these gentlemen been during the last half a dozen years? Have they not read agricultural papers, and have they not heard of the "Bliss Potato Premiums," and the immense yields against which theirs fade into insignificance?

In 1873, the present publishers of the *American Garden*, desiring to test the productive qualities of some new varieties, offered large money premiums for the largest quantity of Potatoes grown from one pound of seed. The biggest yield obtained the first year was 607 pounds from one, and the growers then thought that "they did not half try." But they did try afterwards, and with all their might. From year to year larger yields were produced, so that finally but few crops of less than one thousand pounds from one were entered for competition. The maximum yield was reached in 1876, when Mr. H. C. Pearson of Pitcairn, N. Y., produced 1982 pounds from one and 1707 from another pound of seed, justly entitling him to the champion belt. Some doubting Thomases, who may consider this as a good joke, can be referred to the gentlemen whose names and addresses we give below, who have nearly as big stories to tell and have been among the successful competitors. From one pound of seed were grown:

1694 and 1665 pounds by J. I. Salter, St. Cloud, Minn.
1666 pounds by J. L. Perkins, Little Sioux, Iowa.
1576 pounds by Alfred Rose, Pen Yan, N. Y.
1571 and 1511 pounds by P. C. Wood, Hillsboro, Ill
1535 pounds by L. G. Clute, Manchester, Iowa.
1534 pounds by Peter Robertson, Jedboro, Scotland.

Incredible as these statements may sound, they have been verified by hundreds of persons, and there is not a shadow of doubt about their correctness. It is not impossible that even this "can be beat," but so far we are not aware of a larger yield on record.

LARGE YIELD OF CORN.

During a recent visit to the "Rural Farm," on Long Island, in company with several well known agriculturists, our attention was drawn to an unusually fine looking field of "Blount's Prolific Corn," just ready for husking, and upon being informed by Mr. E. S. Carman, the proprietor, that from a trial of a few stooks, the yield promised to be over one hundred bushels of shelled corn per acre, our curiosity became aroused; for although we have often heard of one hundred bushel yields we had never before seen an acre producing this amount. We selected five average-sized stooks from different parts of the field, husked and shelled the Corn on the spot, weighed and measured the product and by multiplying the average weight, of fifty-six pounds to the bushel, with the number of stooks contained on one acre, found the entire product to be one hundred and twenty-two bushels, and adding the four bushels which had previously been removed from the field, for seed, we arrived at the grand total of *one hundred and twenty-six bushels of shelled Corn per acre.* The entire measurement, to which we look forward with interest, can vary but little from the above figures.

The most important feature about this extraordinary crop is that it was not the result of extraordinary cultivation and extravagant expenditure for fertilizers. The soil does not differ from thousands of acres around it. The "Corn and Potato Fertilizers" used did not cost over $10 per acre, and the cultivation was not better than every Corn field ought to receive. Whether it was the peculiarity of the soil, the variety of corn, the fertilizer, the careful cultivation, or all combined, that caused this enormous yield, who shall decide?

NEW VEGETABLES.

Perfect Gem Squash, said, by the originator, to be unlike anything before offered, excellent both as a Summer and Winter Squash. It is a very vigorous grower and wonderfully productive. The Squashes are from 4 to 6 inches in diameter, flattened, of a creamy white color, slightly ribbed, and have a thin, smooth skin. The flesh is fine grained, cooks dry and is of excellent quality and flavor.

New Improved Dwarf Okra.—Grows but 14 inches high, has long slender pods, and is very productive.

Early Snowball Cauliflower.—A valuable addition; perfectly solid, pure white and specially well adapted for forcing.

Livingston's Perfection Tomato.—Very early, blood red, medium to large, perfectly smooth, has few seeds and ripens evenly, especially recommended for shipping and canning.

Soja Bean. (Soja hispida.) Resembles somewhat a Bean, the stems are stiff and the pods are produced in numerous bunches of from 2 to 5 and contain 4 smooth nankeen colored seeds. An essential ingredient of the celebrated *Soja* sauce.

Cuban Queen Water Melon, claimed to be the largest and best Water Melon in the world. Skin beautifully striped, flesh bright, remarkably solid, crisp, sugary and luscious.

NEW POTATOES.

Queen of the Valley.—A very large, long, flattened variety, deep pink at the seed end, shading to nearly white at the base. The immense yield of this variety, of nearly all large sized tubers, must secure a large demand for it.

Extra Early Peachblow.—Very early, round, white with pink eyes, similar in appearance, but smoother and not as deep eyed, as the Peachblow, which it resembles in all its good qualities, with the additional advantage of extreme earliness.

White Elephant.—Late, long, cylindrical, with depressed eyes, skin white and smooth. Flesh fine grained, white and of good quality. A productive and valuable winter variety.

Adirondack.—Late, round, dark coppery red. In general character similar to the old Peachblow, but hardier and more prolific. Said to suffer less from drouth than other varieties.

White Star.—A cross between Excelsior and Peachblow. Medium late, cylindrical, of good uniform size, white, of excellent quality, keeps well and yields profusely.

The Fruit Garden.

SEASONABLE HINTS.

Strawberries.—When there is no snow on the ground, the beds should be examined and covering, which may have been blown off by heavy winds, replaced. Standing water, which may have collected in low places, has to be drained off, when the ground is not much frozen.

From *Raspberries* and *Blackberries*, the old canes should be removed during winter. The pruning of the new canes is better not done before the severest cold is past—the latter part of February or beginning of March.

Currants and *Gooseberries*, especially on heavy soils, are much benefited by a mulching with littery manure, or any coarse material. The old black branches and stems should be cut out, and the most vigorous young shoots headed back at any time during winter, when there is no frost in the wood.

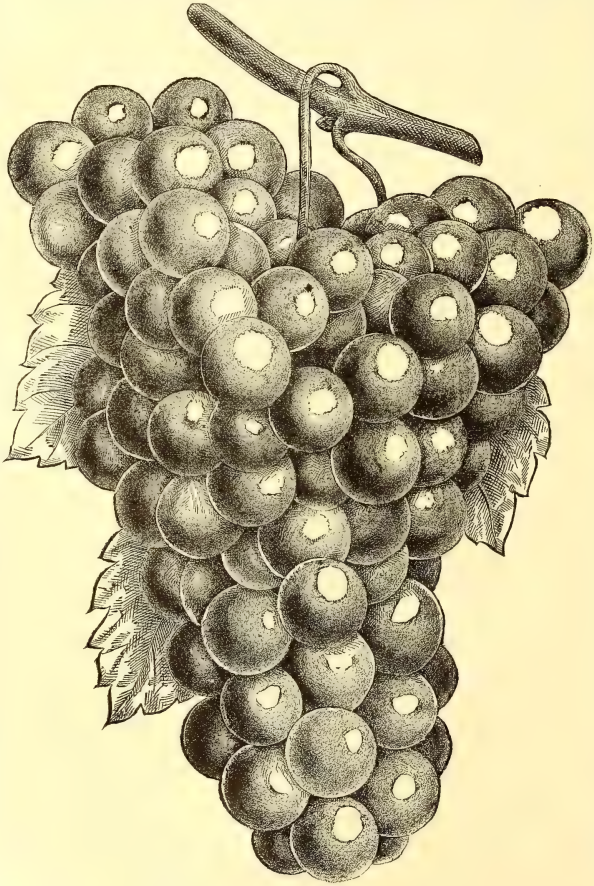
Grape Vines.—The hardy varieties may be pruned on mild days. Large branches, which may have become torn from the trellis should be tied up, even if pruning is deferred. When new trellises have to be erected it is best to procure posts and wire now, and have everything ready before spring work opens.

Young Trees may be protected against mice by making a conical mound, about eighteen inches high, and three feet in diameter, around the stem and firmly packing the surface with the back of a spade. If this has been neglected before the ground freezes, the snow around the trees should be stamped down after each snowfall. The eggs of the tent caterpillar, on the small branches of apple trees are now easier found and destroyed than at any other season.

Varieties.—There are now so many excellent varieties of almost every kind of fruits in cultivation, that those who want *the best*, need not feel disappointed if they happen not to have all the latest novelties on their list. Much progress has been made in fruit culture during the last quarter of a century, and the time will never come when improvement shall come to a stand-still, yet some varieties which have marked the first steps in the era of improvements, have held their own to this day, and have, in some rerespects, not been superseded by new comers.

THE NIAGARA GRAPE.

During the latter part of October we had opportunity to taste some fine bunches of Niagara Grapes and were surprised to find them so much better than those we had eaten about the middle of September, that, from their eating quality alone, we would hardly have recognized them as the same Grape. The peculiarity of this variety appears to be that, while ripening very early, it keeps a long time on the vines, gradually improving in richness and sweetness. With the "Niagara" the long felt want of a *hardy*, *purely native White Grape* of good quality, seems to be supplied. It is, to say the least, in White Grapes what the Concord is among the Black. The accompanying illustration represents a bunch somewhat below the average size of clusters and berries. We are informed that no vines will be offered for sale during the present year.



NIAGARA GRAPE.

THE CUTHBERT RASPBERRY seems to have "come to stay." It is gaining new friends every year, without losing any of its old ones. We have grown it many years before it made a stir in the world and have always considered it the best *hardy* Red Raspberry.

KEEPING WINTER APPLES.

The abundant yield of our orchards and its low market price is causing much inquiry as to the best modes of preserving Apples. *Dr. T. H. Hoskins* gives in the *Rural New Yorker* his views on this subject as follows: "The essential requisite for the safe winter keeping of Apples is, I believe, the preservation of a low uniform temperature as near the freezing point of water as possible. This can be maintained in dry cellars, but much more easily and perfectly in wet ones. The presence of water has a controlling power over the variations of temperature near the freezing point, as all know who have had to keep water in a cold cellar to keep it from freezing. The moisture does not harm the Apples. It may even be a direct benefit in preventing evaporation from and constant withering of the Apples though this evaporation is very slight at the low temperature necessary in fruit cellars for success in keeping Apples until spring. In Canada, Apples are rarely stored for keeping in house cellars. A special cellar is made, deep, with thick stone walls laid in mortar. These walls rise above the surface only ten inches to allow of small windows for ventilation and light. There is a double floor above, filled in with moss or sawdust. This floor is covered by a roof-like attic, and the Apples are there kept until the approach of severe frosts, when they are sorted, barreled and lowered into the cellar through a trap door which is then closed and packed in the same way as the floor. At times during the winter, when the weather is not freezing, this cellar is opened and fruit removed for sale. When properly made and managed there is little or no loss in the way of storing Winter Apples."

SELECTION OF VARIETIES.

For the beginner it is much safer to confine himself to the well-tried, standard varieties, than to invest largely in promising novelties. Those not familiar with the special characters of the different kinds, will generally be better suited by entrusting the selection to some reliable nurseryman or dealer, than by choosing from the descriptions of the long lists of catalogues; There is so much difference in the adaptation of soils and localities for the various varieties of fruits,—a knowledge of which can only be obtained by long and practical experience,—that a large portion of the failures in fruit growing are caused mainly through the selection of unsuitable varieties.

WINTER PRUNING.

There are times when practice and theory do not apparently agree, and winter-pruning is a case in point. The older gardeners have been taught that fresh wounds, during cold freezing weather, would not heal; that disease would certainly set in, causing death or permanent injury to a portion of the tree at least. Theory certainly teaches that when the inner organism of the wood is exposed, the air at a low temperature will freeze the delicate parts, and death must result; yet we find our nurserymen of latter years pruning their trees during very cold weather, on account of the personal comfort to themselves, arising from the dry, firm ground to walk on; and no ill effects arise therefrom. The old adage of "pruning whenever your knife is sharp," is not so far from the truth after all, although prejudice, at least, will incline us to defer the operation until the mild days of early spring.

How to prune is a question of difficult solution, owing to the individual experience and preference of our teachers in the matter.

A system that has proved entirely satisfactory to more than one, is performed somehow in this wise. In the earlier stages of the tree's life, after it has become established in the orchard or garden, select *three* branches, as nearly as possible together, and at a height from the ground depending upon the desired length of body. These three branches should diverge at equal angles, and resemble what botanists term a "*whorl.*" About eighteen inches above this whorl, another set of three branches should be encouraged to start out, and all others between the two sets must be rubbed or cut off. This arrangement of branches must be continued as the leading shoot increases in height. As to the side branchlets, growing out of the selected branches, these must be thinned out with judgment, allowing only sufficient to remain to form an open healthy top. If headed in too much, a crowded head will result, which is a waste of vitality. Pruning causes strong growth, but at the same time it will be at the expense of the tree's constitution.

The main points in pruning trees may be summed up in a very few words. Commence when the plant is very young, and no harm will result from removing the slender young twigs, for if allowed to remain until they assume the size of thick branches, more or less injury will result.

Be sure to give the cut portion of large wounds a coating of shellac dissolved in alcohol, or when very large, wrap up in moist clay and cow-manure. Dull tools invariably leave a rough jagged surface which is more difficult to heal over than a perfectly smooth cut.

In the ornamental department, no set rules can be laid down to guide the inexperienced arboriculturist, but any one with an eye for symmetrical proportions can induce the head of a favorite specimen to assume proper proportions and outline. If the tree inclines to become straggling, with long shoots, bare of branchlets, they must be well headed back and if the limbs spread too much, cut to an inside bud, but if on the contrary, they grow too closely together, then select an outside bud to cut back to. It is preferable to encourage a straight leading shoot to all trees, and never allow it to fork under any circumstances. More trees are injured by high winds when in the latter condition, than from any other source.

THE GRAPE HOUSE.

Every one recognizes that Foreign Grapes are a great luxury, and many would like to grow them if they did not suppose it to be so very difficult. There are no operations of horticulture whose difficulties are so much overestimated.

It is to the interest of the grower who sells his Grapes, and of the professional gardener who grows them for his employer, to exaggerate the difficulties, and thus the amateur is deterred from trying for himself.

What are the conditions for success? Simply to secure the conditions of temperature, moisture, and freedom from sudden change which are found in the countries where these fruits are grown in the open air. We secure this by using the natural qualities of our climate, so far as they are favorable, and by supplementing these as far as necessary by artificial means, and this we do by protection with glass.

The first consideration in the preparation of the border is drainage. If this is obtained by a naturally porous subsoil, very good; if not, it must be secured by an artificial drain. The soil needs to be only the best possible natural soil. This is best obtained by filling to the depth of two feet with decayed sods from an old pasture, with a good admixture of ground bones. The house may be very simple and inexpensive. Ventilation must be carefully provided for. This is the one important requirement.

After planting, the vines should not be allowed to bear until they are sufficiently matured to be able to produce a crop without undue exhaustion—say the third year. Having been laid down and covered with sand the previous autumn, they should be taken up in a house without fire heat, not earlier than the middle of April, in the latitude of New York. Even then we are liable to cold storms which may check the growth after the vines have started. The vines should be washed with warm soap suds, to clean from insects and soften the buds. As the buds near the end of the shoot are apt to break more quickly and grow more strongly than those along the vine, it is well to tie the vines up only part way and allow the ends to hang down so as to throw the first growth into the lower buds.

There should be frequent syringing from a hose to keep the air moist, like the natural condition with spring showers. When the sun's heat runs the mercury above eighty degrees, ventilation should be given. As the growth begins and advances the ventilation must receive careful attention, being given gradually as the heat rises in the morning and the operation reversed in the afternoon. Fifty and ninety degrees are the limits beyond which the temperature should not be allowed to go. At every stage of growth sudden changes and cold drafts must be guarded against as the fruitful causes of mildew and failure. The sudden changes of our climate are the chief reason why Foreign Grapes cannot be grown in the open air.

Daily syringing must be continued until the vines are in blossom, when it must be suspended while the fructification goes on. The air can be kept moist by sprinkling the ground. When the fruit is set there must be a thorough thinning of shoots by removing such as have the poorest bunches, and as the berries of these grow, the clusters must be thinned by removing, with sharp pointed shears, the smaller berries. This allows those remaining to have room to grow. It is often best to remove more than one half the berries of a cluster.

Where fire heat is employed to secure early ripening the same general conditions are to be observed. The great point in the use of fire is to secure the proper degree and uniformity of temperature and to avoid the effects of cold storms. Thus it is often advantageous to use fire heat until June. But it should be borne in mind that it is natural for plants to have a lower temperature at night than in the day. A high night temperature causes feeble growth. With fire heat the vines may be started at any time, but the difficulties and expense increase with early forcing so that no one but a skillful grower should begin operations before February.

To insure the finest crop of Grapes they must have plenty of air without sudden changes—plenty of moisture—severe thinning of branches—and severe thinning of berries.

Of varieties it is advisable to grow but few. The Black Hamburg is the most valuable of all. The Muscat of Alexandria is of unsurpassed quality. White and Grizzly Frontignan are desirable.

CHANGING THE BEARING YEAR.

It has been suggested that by picking off the fruit buds from trees in the bearing years, the habit of the trees could be changed so as to bear an equal crop every year or a full one in the otherwise barren years. Experiments made to this purpose have not fulfilled these anticipations. The usual barrenness of fruit trees in alternate years is not caused by over-bearing and exhaustion from the previous crop *only*, but frequently by frosts and cold rain storms during the blossoming season. If such injurious conditions should prevail during the year for which we have prepared our trees for bearing, we might lose the fruit crops for three years in succession.

Cultivating Young Orchards.—If you have money to fool away, seed down your young orchard to Clover and Timothy, or sow a crop of Wheat or Oats. If you want the trees to thrive, cultivate well till they are seven to ten years old. Spread ashes, manure, or salt broadcast. Stop cultivating in August, weeds or no weeds. To judge of the condition of an Apple tree is like judging of the condition of sheep in a pasture. Look at the sheep and not at the pasture, and if they are plump and fat, they are all right! So says Prof. Beal.

Seedling Peaches.—In localities where Peach trees, budded with the improved varieties fail, seedlings will often be found to succeed. The yellow fleshed kinds, when raised from the pits, generally vary but little from the parent fruit; others—even if some of their offsprings prove inferior—may produce seedlings of superior quality. All our choice varieties originated in this way.

Keeping Cider.—To keep cider in good condition, whether it is to be used as a beverage, or for making vinegar, the casks should be filled to overflowing, every few weeks. Cider of the same quality is best for this purpose, but when such is not at hand, sweetened water may be used instead.

The Flower Garden.

Written for The American Garden.

FLITTING AND FLIRTING AMONG FLOWERS.

In the garden were leisurely walking,
Brave Robin and Roxy the fair,
And Robin, while walking and talking,
Twined roses in Roxy's brown hair;

Rosebuds and Roses all blushing,
With sprigs of the sweet Mignonette,
While the blood to their faces kept rushing,
When Robin's eyes Roxy's eyes met;

Jasmine, Laburnum, and Larkspur,
Verbenas, deep dyed and pale,
Gay Pansies and Lilies of the Valley
Heard Love tell his stammering tale;

While the lovers kept walking and talking—
Four eyes bent down to the ground;
Two hearts had been lost, they discovered,
And then discovered them—found;

But didn't know what to do with them,
The lost and found hearts—for a while,
So each plucked a new and fresh nosegay,
And each gave the other a smile;

Each a stem of Forget-me-not gathered,
And each said "Take and keep this;"
Their vows thus exchanged with fresh flowers,
They sealed the exchange—with a kiss;

Fidelity, secresy, silence,
Each promised to faithfully hold,
Till Robin could earn for his Roxy
A home, and some shekels of gold.

But alas, some open-eared listeners—
Winged messengers, hurrying by,
Saw what had been done in the garden,
And tattled to earth and to sky;

"O! Robin and Roxy are lovers,"
They piped with a song and a shout,
"And have plighted their troth in the garden,"
—So the delicate secret was out.

The world soon had the whole story
Which Robin could not deny,
And Roxy, when bantered about it,
Blushed back 'neath a mischievous eye.

So Cupid, and Robin and Roxy,
Made love with flowers for words,
As they walked and talked in the garden,
And nobody told but the birds.

CLARK W. BRYAN.

Great Barrington, Mass., December, 1880.

SEASONABLE HINTS.

Plans and *Preparations* for the coming spring are the principal work to be done now.

The Catalogues of some of our leading seed houses are now so elaborate and complete as well to serve the purpose of hand-books and guides for the garden. Much valuable information may be obtained from their pages, and by studying the descriptions of the different species, one can select, at leisure, such kinds as seem most desirable. By procuring, in addition to those with which we are already familiar, every year, a few packages of such that are new to us, an extensive knowledge of plants may gradually be acquired and many pretty and interesting novelties added to the flower garden.

Protection of some kind should be given to all herbaceous and bulbous plants remaining in the ground. Even entirely hardy plants are benefited by a light covering.

Roots of *Cannas*, *Dahlias* and bulbs of all kinds, stored in cellars, should be examined occasionally. If found damp and mouldy, they should be cleaned of all decaying parts and removed to a drier place. Most roots keep well in *dry* sand.

WILD GARDEN EXPERIENCES.

The Wild Garden has been a decided success. Even now, when snow covers the border which gave so much pleasure and surprise, we receive many letters in praise of the "Wild Garden Idea."

Our esteemed friend, "Damon," whose extensive knowledge of plants imparts special value to his opinion, writes:

"I was astonished at the variety of plants obtained from my package of Wild Garden Seeds. They have come up so thick that I determined to transplant some in little groups, by the aid of a good sized garden trowel, being careful to lift them up in quite good sized patches, so as not to disturb the roots any more than I could help, placing them in various positions entirely away from the garden proper, a feature that is so enjoyable and so instructive; giving us an idea of how Dame Nature disposes of her children. A little nook here and a little knoll there suggests a position and we have at once something so fresh and novel that makes us wonder why we have not had our Wild Garden before?

I am anxious to hear from other friends of THE AMERICAN GARDEN how they have succeeded with their Wild Garden. Of course I had to make some little preparation for the new comers, so before disturbing them I cleared away the old settlers, in most cases, by digging them under,—the fate of old stagers generally—then a few spades full of well decayed manure and rich soil were spread on the surface and well mixed. The little groups were then planted and made quite firm, and after one good soaking of water, looked as though they were born there. In my little patch of not more than one hundred transplanted plants I found not only a large number of the choicest annuals, biennials and perennials but also some new and quite distinct looking plants which I suspect are from California, Nevada, and the Rocky Mountains. I let all the annuals bloom and then pulled them out as fast as they grew past their prime, so as to make room for the perennials and give them a chance to mature before winter. I am looking forward to a great pleasure in my Wild Garden, it is not for a day but looks as though some of the plants might last almost a lifetime."

R. A. B., from Arkansas says: "The Wild Garden was the wonder of all. There was something new almost every day." M. I. F. writes: "Every day something new comes into bloom. I would give all my other flower beds for the Wild Garden." These, and many similar letters indicate clearly that the real lovers of flowers have become tired of the exclusive use of the fashionable bedding plants and long for some relief.

In carpet or ribbon gardening the principal, and almost the only object, is to produce an attractive or striking effect—to make a show. Appropriate and pleasing to the eye as such a group, situated in a conspicuous place, may be, and especially when seen from some distance, it offers but little opportunity for plant culture proper. In the mixed border, and foremost in the Wild Garden, each flower has its own individuality; from the day when we entrust the seed to the soil, when the first leaves appear, and through all stages of its development our attachment increases; with every day and with each opening bud new pleasures and new surprises are in store for us. Here each plant is grown for its individual beauty, for the love of it.

KEEPING FLOWERS.

A great deal has been written on the preservation of cut flowers, but the matter is still imperfectly understood by most people. It is important to know, not only how to take care of them after being cut, but how to cut them. On this latter point a practical hint may be of service to our readers. It might not occur to them that it made any serious difference whether the stems were broken off or cut with a knife or scissors. A sharp knife is the right tool for the purpose, as it leaves the sap vessels of the stems open for the absorption of water, while scissors crush and compress these vessels so that their absorptive power is more or less destroyed. Like injury may be done in breaking off the stems, especially if they are tough. If the flowers are put into water immediately, the ends of the stems should be cut off with a sharp knife, as the sap vessels will probably have become clogged with coagulated matter.

Cut flowers often suffer from too dry atmosphere. It is difficult to avoid this in our artificially heated rooms, but we may at least put the blossoms in the coolest part of the room. Near a window, and especially in a bay-window, the temperature is generally several degrees lower than in other parts of the room, as you will see if you will test it with a thermometer. The best authorities say moreover, that the flowers should have the benefit of light, and even of sunshine in most cases, though there is popular prejudice against exposing them to the latter. On the other hand they suffer, as plants do, from draughts and from sudden alterations of temperature.

Botany also furnishes us useful hints for prolonging the life of many single flowers. This may be done by removing the anthers, for when the pollen on these becomes ripe the stigma gets impregnated, and the flower having fulfilled its natural destiny, drops its petals and withers. In the case of blossoms that fall to pieces very easily, it is a good idea to let fall a drop of gum or mucilage into the center, which will glue the petals together at the base. To prevent this from running out, before it hardens, the flowers should be kept upright by putting their stems through the bottom of a sieve or sticking them in sand. With the aid of a camel-hair brush or a pointed stick a large number of flowers may be gummed in a short time.

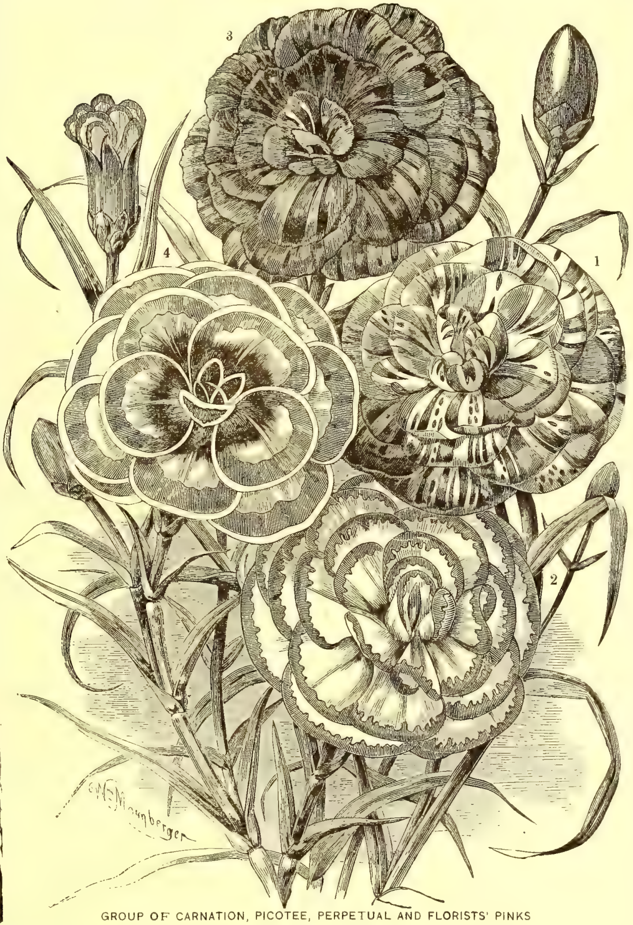
When flowers have been carried a long distance in close boxes or cases, they often appear withered and worthless, but with proper treatment they may be revived and restored to their original beauty. Instead of being at once put into vases and exposed to the hot dry air of the parlor, they should either be spread out on wet flannel or moss and covered with a dish cover or an inverted box, or else put in pans containing moss and water or wet sand, in which they can be set upright, and then shut up in the dark for a few hours. If they do not regain their freshness under this nursing, there is no hope for them; but in all ordinary cases their recovery is certain.—*Journal of Chemistry*.

Hyacinths and other spring flowering bulbs can still be planted where frost is not over six inches in the ground. The frozen soil is easily broken and removed in blocks alongside of the bed. The bulbs are then planted, about two inches deep, in the loose soil beneath, after which the frozen soil is replaced and the interstices filled with the smaller pieces, and the whole covered well with leaves, or any suitable mulch.

PINKS, CARNATIONS, PICOTEES, AND PERPETUAL CARNATIONS.

So many of our friends ask us for explanations of the difference between the above, that we have thought a description of the classes, with a few notes on their cultivation and management, would be acceptable in "THE AMERICAN GARDEN." The accompanying cut is so admirably executed that it needs but little explanation.

The *Pinks*, figure *4*, are perfectly hardy, and need no protection in winter, of close compact growth, with grassy narrow foliage, flowering during May and June, flower stems very numerous, growing from ten to fifteen inches high, and, when in bloom, are among the most beautiful flowers in the garden. The flowers are of various shades of crimson, maroon and red, mostly with white grounds and white margins, a few have purplish pink grounds, and nearly black markings—and again there are a few self-colored flowers, white, pink, and red. Pinks are easily propagated, first by "pipings"—short shoots which are made immediately after flowering—these should be pulled off with short heels from the main stem and inserted, thickly together, in a shady position, made quite *firm*, and well watered as required. In three weeks they will be rooted, in which state they may remain until a showery time, when they can be planted where they are to remain for blooming. Another way is to dig up the plants as soon as the blooming is over, and tear them into several pieces with a portion of the old stems and roots attached, re-plant immediately, make firm; shade for a few days, and with one or two good waterings they will take root and become fine plants in a short time.



GROUP OF CARNATION, PICOTEE, PERPETUAL AND FLORISTS' PINKS

Carnations, florist's varieties, are divided into five classes: 1st, scarlet flakes, with irregular bars of scarlet, figure *1*; 2d, rose flakes with bars of rosy shades on white grounds; 3d, purple flakes with purple bars; 4th, bizarres with scarlet, purple and white bars, and any three or more colors in the same flower, and 5th, selfs.

They are stronger in growth than Pinks, nearly or quite as hardy, flowering in July and August with not so many stems, but their finer flowers make them equally valuable. They are easily propagated by layers, immediately after flowering. This is done by partially cutting through the stem on the under side, so as to form a tongue-like piece three-quarters to one inch long, making the cut *from* the stem, not towards it. To induce the easy formation of roots, a small piece of stick, or splint, should be placed in the cut to keep it open. Then peg the shoots down firmly, and cover with fresh soil to the depth of an inch and a half or more; give occasional waterings, and in about six weeks the layers can be cut from the main stem and re-planted where required.

Picotees, figure *2*, are flowers with solid grounds of either white or yellow, and are divided into six classes, all having narrow edges of decided colors: 1 and 2 heavy and light edges of rose and scarlet on white grounds; 3 and 4 heavy and light edges of purple, and maroon on white grounds; and 5 and 6 heavy and light edges of purple, scarlet and red on yellow ground. They are always chaste and beautiful, and of the same habit and hardiness as Carnations, requiring the same treatment and mode of propagation.

Perpetual Flowering, or *Tree Carnations*, figure *3*. These are, perhaps, better known than any of the preceding, although of more modern introduction, and are, by many, erroneously called Pinks. They are of more excitable growth, forming more or less woody, tree-like stems, blooming more or less continuously, generally not so hardy, flowers not so regular in shape, as a rule, running through more shades of color, especially amongst shades of red, rose and pink. There are, also, numerous forms of white, yellow, crimson and self-colors, the latter being more sought after; many varieties have fringed edges (this, in a florist's Carnation, Picotee or Pink, is a serious fault and not admissible.) They propagate readily from cuttings. Strong plants put out at end of April will commence flowering by August, and continue all winter, if lifted before frost and kept in a temperature of not more than fifty-five degrees.

The whole family delight in sunshine, rich soil and a moderately dry atmosphere. They are one of the earliest classes of plants improved by florists and to-day are more popular than ever. who is there that does not love them with their exquisite forms, chaste colors and delicious perfumes?

RUSTIC WORK.

Rustic ornaments, appropriate to the extent of the grounds, add much to the embellishment of the garden and lawn. Many climbing and trailing plants cannot be shown to better advantage than on a rustic arbor or trellis, and for the most favorable display of "Basket Plants" nothing is better adapted than tubs or tables made of rough bark and roots. Hanging baskets, window boxes, brackets, and an endless variety of articles suitable for window and house plants, can easily and cheaply be made. Most plants feel more at home in such rustic receptacles, and thrive better than in glazed and ornamented pots. Winter is a favorable time to procure the necessary material from woods and swamps. Any one possessed of natural taste and some mechanical skill, can during winter construct many ornaments of this kind, enjoying the work as much almost as the cultivation of the flower beds during summer. Professional carpenters are seldom good hands at this kind of work; they square and plane your choicest rough and crooked roots and branches until all their beauty is gone.

Lawn and Landscape.

PRUNING EVERGREENS.

Pruning Evergreens has undergone a complete revolution within the past few years. Who ever heard of the old gardeners pruning back this class of trees to compel them to form dense compact round heads? With the exception of the old-fashioned Box-bush, and Holly, no other species ever felt the knife. On account of the Pine family proper never showing buds except terminal ones, it was thought to be simple destruction to cut off a shoot; and now not the least attention is ever paid to buds or shoots of any description, but the tree is sheared into the proper outline according as the eye dictates.

There are numerous undeveloped buds that are only awaiting proper conditions to force them into active growth, and thus evergreen trees are not only made to assume a regular outline, but to become very compact as well. No class of cone-bearing trees are more benefited by close pruning than the Arbor Vitæs and the common Hemlock Spruce. The difference in these, between the pruned and unpruned specimens is so marked as to enable the first to command double the price as the latter in the nursery row.

ASPARAGUS AS A LAWN PLANT.

A friend of the "*London Garden*," suggests a very good idea as to Asparagus: "Of course the old plan of sticking the plants in close beds is all wrong. There are many bits of fine soil in gardens, even the so-called pleasure grounds and hardy plant borders, where a strong clump of the common Asparagus would be a great ornament, as well as of use. I shall plant a hundred or more good clumps of Asparagus in our borders here, partly for its tender shoots in spring, partly for its spray for cutting during the summer and autumn months, but mainly for its feathery grace as a beautiful hardy plant. In many a villa garden, even where good Asparagus may never be seen raised in the ordinary way, a capital supply could be obtained by simply dotting a few plants here and there in borders, and on the margins of shrubberies, not only as single specimens, but as groups and masses—never, however, nearer to each other than four feet."

Lawns are much benefited by an application of bone dust, or superphosphate of lime, followed by a dressing with fine manure at this season of the year. The protection thereby afforded to the grass roots, especially in cold winters without snow, will be well repaid in the luxuriance of the grass, and the dark green color of the lawn during the following summer.

Where the making of new Lawns is contemplated, all available manure should be spread over the surface, as soon as possible. The winter rains and snows will carry the soluble parts into the soil, and prepare them for immediate assimilation by the young grass roots.

Evergreens and other trees, and shrubs with brittle wood should have the snow shaken off their branches after every heavy snow fall. Many valuable trees become permanently disfigured from the bending or breaking of their limbs, by heavy masses of snow and ice.

The Window Garden

AND GREEN HOUSE.

SEASONABLE HINTS.

During cold weather, care must be taken to prevent freezing and sudden chills on the one hand and on the other not to allow the room to get too warm. In extreme cold, plants are better removed from the windows and placed on the floor, into some warm corner; sheets of paper pinned over them will afford a great deal of protection at any time. Watering should be carefully attended to, avoiding extremes and remembering the more heat the more water, and vice versa. Occasional washing of the leaves, either by syringing or sponging, will greatly assist in keeping plants in good health. But little can be done just now in repotting or changing, this is better deferred until the return of lengthened days.

All Bulbs intended for early blooming should, toward the middle of January, be placed in sunny windows, and kept constantly moist; those in glasses should have water just touching the base of the bulb, and a few pieces of charcoal will keep the water perfectly sweet.

Green House Plants require about the same care for the next two months, after which cuttings of many plants such as Fuchsias, Petunias, Geraniums and other soft wooded plants can be put in, choosing the warmest place and if bottom heat can be had so much the better. By the first of February repotting may be commenced, beginning with those plants that have their pots well filled with roots, but in all cases where plants are not commencing to grow, it is better to defer this operation. Only clean pots, well drained, and good soil should be used at any time.

SOIL FOR POTTING PLANTS.

For general purposes the best soil for potting plants is simply turves of fresh loam, taken from old pastures, or the road-side, when not otherwise to be had. Now is a good time to lay in a store for future use. The turves should be cut thin, not more than one and a half inches thick. When cut, pile away in a dry place under a shed or in an out-building, placing the grassy surfaces together in layers one above another to a convenient height. Between each layer of turves place a layer of cattle droppings. These can be easily procured and are the best substitute for leaf mould when thoroughly mingled with the soil.

Placed in a dry place the grass and its roots speedily decay, and in the course of a few months will be fit for use. When wanted for use take a sharp spade and beginning at one end of the heap pare down the surface from top to bottom as thinly as possible, and when a sufficient quantity is cut, mix up well together. It will then hardly need any other preparation, but it may be well, for using in small pots, to pass it through a very coarse sieve to remove large lumps and undecayed roots. Should the loam be heavy, a portion of sand (not gravel) may be added, thoroughly mixing it with the loam.

It is impossible to accurately describe what constitutes a heavy or a sandy loam, but on an average one-sixth part of sand may be added with advantage for Geraniums, Fuchsias, Heliotropes and Abutilons, and in fact the greater portion of greenhouse plants. For Cacti a larger portion may be added, or better still pieces of broken flower pots to insure thorough drainage. For Azaleas it is desirable to add about one-half of good peat soil, or leaf mould well decomposed. The first is not always to be had at hand, but without it, excellent results in cultivation are to be had. In conclusion let me impress on your readers the necessity of firming well the soil in potting as essential in successful culture, especially of hard-wooded plants.

PROPAGATING GERANIUMS.

When the beds commenced to get thoroughly shabby in September we dug the Geraniums up and heeled them in, in a dry place for a day or two, keeping them short of water. We then had a load of soil from the woods hauled and some road sand, these mixed with some old cow manure will be useful in season, but we only used the sand, with soil enough to color it. The Geraniums were then cut into three inch lengths and laid in a row on the porch to allow the wounds to dry. Next morning we filled our box, (a dry goods box. with sides cut down to one foot, and a tin bottom in, half way down, the wooden bottom being removed.) This box stands on trestles in the bay window, and we have a coal oil stove just barely lit on the ground under it. It is astonishing how soon our cuttings struck and when they had put out shoots half an inch long, we put them into thumb pots with a little more soil, and a small proportion of cow manure in the sand. Then in went more cuttings. Where did we get them? Out of the cellar; we just bunched the plants, like boys string their fish, and hung them up, roots up, in the cellar, with no dirt on, and when we had exhausted the bright days of the Indian summer, we filled our plant case with bulbs, and put our plants in the cellar, pots and all. In the spring we brought up our old Geraniums from the nail. Most of them had put out long white shoots like Potatoes sometimes do. We planted them in earth, and gave them a little bottom heat for a few days; no direct sun light, and they commenced growing. Then as soon as the spring growth tendency was strong, we cut them up and made a number of spring cuttings.

A few nails are driven round the moulding where the bay window opens into the room, one or two curtain rings are sewed on blankets, and with our coal oil stove we can defy "old Zero" and his anti-horticultural designs. Nothing new in all this, and yet some of your readers might not know how to raise a couple of hundred cuttings in the window, and save them over winter.

Plants for Hanging Baskets.—Plants of a compact, trailing or drooping habit are most desirable, and with proper care many beautiful plants, generally not used for baskets, can be grown in them. There is nothing more graceful than some of the smaller Ferns, Geraniums, Centaureas, Sedums, Tropæolums, Coleus, Achyranthes, Begonias, Tradescantias, Gnaphaliums, Saxifraga sarmentosa, Lysimachia nummularia, Ivies and many others are suitable. Most florists furnish assorted "Basket plants."

In purchasing cut flowers ask for bits of vine, snips of green, and add sprays of foliage. These, if gracefully added to the bouquet, make it far more attractive.

Rural Life.

FARM GARDENING.

In no way can a farm or country place be made more attractive and pleasant to the passer-by or resident, than by the appearance of a neat and well-kept garden in the vicinity of the farm-house. With neat fences, trimmed borders, uniform rows of vegetables, neatly arranged masses of flowers, well-beaten paths, and weeds unknown, that part of a farm which lies anear cannot but be agreeable to the eye. It is a picture in a rustic setting, which brightens up the surrounding landscape, and however much, even, a rude and uncouth farmer may pretend to say it is all nonsense, he finds it, sooner or later, not only a thing of beauty, but an educator, an inspirer of thoughts and deeds leading to a nobler way of living, and to a really higher life.

From the season of early springtime on through the long days of summer, and still on through the beautiful autumn time, as long as vegetable life holds out an existence, so long the garden—the farm garden more particularly—has its beauties and uses in a marked degree, and its influence for good, especially to the young and middle-aged, and even the old, so old even that the senses are comparatively dulled; the growth of the warm season, the waving grain, the emerald grass, and the many-hued garden, are the oases of beauty and enjoyment in the otherwise desert of farm life.

From the brilliant-hued glories of the tropics to the frozen regions of the north, where

> "Living flowers that skirt the eternal forests"

have a home, vegetable life and floral beauty have made more hearts glad and grateful than all the amusements and excitements of the heated saloons and fashionable resorts in existence—joy and gratitude of a pure, ennobling, lasting nature, which only they may know who have had experimental knowledge of these possessions. The enjoyments of living among the beauties of nature are inexpressible, solid, and enduring, and partake of a spirit of contentment, of rest and peace, which unconsciously soothes many a troubled soul, and brings comfort and consolation with weariness and exhaustion, mayhap, but heartful enjoyment of no small kind or dwarfed nature.

The farmer who has a neat and well-kept garden, is almost sure to have a neat and well-kept farm, a comfortable and well-appointed house, tidy outbuildings, and stock in good condition, and the housewife who takes pride in her garden, generally has a home to take pride in and to be proud of.

The young girls who go to town, or the children to school, with a seasonable flower in their hair, or in a rudely made button-hole, are on the high road to a future life of taste, culture, and solid life enjoyment. The rustic, however uncouth he may be, who presents his admiration to his inamorata in a flower or a nosegay, is a great deal nearer being a true gentleman than he is popularly supposed to be. The farm-house sitting-room that is redolent of freshly plucked flowers, or gay with their beauties is also a little nearer heaven than many a more pretentious and elaborately furnished parlor.

The season "when the winter is over and past, and when the flowers appear on the earth," is the most gladsome and joyous of the whole year, and now that

> "The melancholy days are come, the saddest of the year,"

we can find much joy in anticipation—in looking forward to the season, now a few months hence, when vegetation shall again spread her mantle of green abroad over the earth, when the springing and blossoming flowers shall gladden our hearts anew, with their fragrant and beautiful presence. And from no one class of gardens, floral, fruit or vegetable, is there more to hope for, to look forward to in anticipation, than there is from this most-to-be-prized country life blessing, a good and appropriately made, and carefully tended miscellaneous Farm Garden.

Foreign Gardening.

A GARDEN IN PARA.

It is the middle of November, warm, bright, with a cool, fresh breeze, the time, eight o'clock in the morning; for we are not where November is a cold grey month, but under the sunny skies of the equator. On our way to a friend's garden we take the long street bordered with tall Royal Palms, (*Oreodoxa regia*) wind along the crumbling walls of an old convent, which are a mass of White Jasmine, CypressVine and Morning Glories, and soon come into the great theatre square on the four sides of which are great Mango trees all full of green fruit. A ten minutes' walk brings us to the garden, above the tall fence of which tower many Orange trees full of fruit and flowers, which perfume the air delightfully. Entering through a tall gate, over which twine great Orange Trumpet Flowers, we see before us an avenue planted on either side with Oranges, Mangoes and many other trees, the end of the vista being a great clump of the beautiful Peach Palm. We are lost in admiration at the variety and beauty which surrounds us. Caladiums with bright white and red variegated foliage cover the ground; clumps of *Amaryllis fulgida* are full of showy flowers, creepers twine over and hang in luxuriant festoons from the trees, and a very pretty parasite with white fragrant flowers, not unlike those of a Maderia Vine, is very common, so much so as to be an evil, as it is death to the branch upon which it establishes itself. On one side is an arbor some 100 feet long, covered with creepers among which Passion Flowers of many hues predominate, and on the posts and rafters of which are growing many common Orchids such as Stanhopeas, Oncidiums, Gorgoras and Epidendrums. On some of the trees near by are immense Tillandsias, some larger round than a bushel basket from which hang great spikes of flowers with rosy or scarlet bracts. *Meyenia erecta* is a large bush covered with purple, yellow-throated flowers, and Cape Jasmines, are large enough to sit under. Allamandas are heavy with trusses of golden bloom, and the beautiful *Thunbergia lancifolia* covering a great wall is a sheet of great lavender blue flowers. Guavas of several kinds were in full bloom and fruit; Sapodillas (*Lucuma*) were covered with the delicious fruit, in size and in color somewhat resembling Russet Apples. Atta, Jaca and Beseba, all species of Custard Apple, bore both fruit and flowers.

But what greatly interested us was the variety of Oranges. The trees were heavy with fruit; the Navel Orange of Bahia, so called, from the protuberance at the apex, and which has no seeds; it is very large and the most delicious of oranges. The Mandarin, the skin of which separates so readily from the pulp; the Red Tungerine, many varieties of the common Sweet Orange which differ greatly in size and flavor, and the pretty little Orange of Cameta as large as a good sized Plum, growing in such clusters as to make the tree show more fruit than leaves, and of delicious sweetness. There was also the large sweet kind and many small, sour kinds, also Lemons and Shaddocks.

The Breadfruit trees are always conspicuous from their large, deep-cut foliage, and the two varieties, that of which the fruit has seeds and that without, bear great fruits nearly as large as a child's head. There were many bushes bearing fruit which we did not know. Eight sided, flattish, bright red or black and used for preserves, the seed came from Bahia. The flower is white, somewhat resembling a Myrtle; at first we thought it an Eugenia, but it is evidently not of the Myrtle family. Of Palms there were many, the graceful Assie, the Maracaja with its tall crown of foliage, the Cocoanut with great clusters of fruit, and the huge fan leafed Miriti. Pine Apples grew in great masses and the space reserved for a future house was a luxuriant Sweet Potato patch. Indeed, to tell of all we saw would exceed our limits. The pleasant thought was that all this luxuriance goes on from month to month, fears no winter's chill, and with the lapse of years increases in beauty, and this in a climate probably as healthy as any in the world. We returned to our house, laden with specimens of fruits and flowers, and as we write, our room is a horticultural exhibition in miniature. We should add that the owner of the garden told us that five years ago there was not a tree on the place.

IVY IN AMSTERDAM.

"The festoons of Ivy bordering some of the principal walks in the Amsterdam Zoological Gardens are most effective, and require only a little time and patience to carry out. Small Acacia trees (Robinia inermis) are planted at intervals of about twelve or fifteen feet on each side of the walk, and about three feet from the edge of the grass. Ivy is then planted midway between the trees and trained along strands of wire, which are fastened to the trees about seven or eight feet from the ground. These strands form great loops or festoons dipping down to the ground in the middle, where the Ivy is planted. The wire is quite concealed by the Ivy which resembles a gigantic wreath. Pink, crimson, and white China Roses are often planted along with the Ivy and trained with it. The pale green plumes of the Robinias, the dark green wreaths of Ivy and the vivid green of the beautifully kept grass are most harmonious."—*Journal of Horticulture.*

All of our readers who are interested in the vegetable or flower garden, in fruits, strawberries, grapes, hardy ornamental shrubs and trees, in farm animals, in farm crops and methods, are invited to send for a copy of the Rural New Yorker, 34 Park Row, New York, which will be mailed to them without charge.

Household Pets.

HOW TO KEEP A PARROT.

To keep Polly in good health the diet question must be most carefully studied, and we preface our suggestions by stating that the diet we propose naming, as being suitable for them, has been tried, and is as near as possible similar to what they have fed themselves upon in their natural state. There may be many of our readers who have given their Parrots other food than what we mention, but we maintain that the following bill of fare is the only suitable one to keep them in good health, and enable them to enjoy a happy old age.

Parrots in their wild state live upon ripe fruit, and tame ones also enjoy it. Sour or unripe fruit is very injurious to them. Seeds they also live upon when in their native land, and so destructive are they to the crops, that boys mounted on ponies are occupied in driving off the Grey Parrots, which, we understand, fly in flocks of 10,000 at a time; and from our own observations of what one bird can do in the way of destruction, (as an apple is soon entirely picked to pieces and thrown piecemeal away, the seeds only being eaten), we can easily calculate what 10,000 birds can do in a short space of time. A whole orchard must become ruined in less than two hours if the birds are allowed to remain in it.

A tin of Hemp seed or crushed Indian Corn should be their daily diet. Alternate it by giving cold boiled rice, with a separate allowance of well-soaked bread, with the water fairly squeezed out; bread is soaked thoroughly when boiling water is poured upon it. Never feed your bird with hot food; their beaks are very sensitive. By no means give your Parrot any animal food, not even a bone to bite, as some people say, for amusement. Animal food renders the bird savage, ill and unhappy. It causes the bird to pluck out its feathers. What for? Why, to chew the quill to procure a taste of the animal food when his master or mistress is not inclined to give it any. The bird is taught to become a cannibal, and he becomes a veritable lover of flesh, which he is not particular in seizing hold of, whether it be upon the thumb or finger bone. The practice of giving the birds bones to bite is not at all a good one; it teaches them to destroy their perches, or tear anything they can lay hold of. The Parrot requires no more amusement than to be taken notice of, spoken to, sang to, whistled to, and caressed by those whom he has a preference for; no one else should be allowed to touch him. A teaspoonful of water once a day he will enjoy, but no trough of water must be placed in his cage. Never give your Parrot the least particle of butter, fat, milk, or greasy food of any description.

When you see your Parrot continually pluming itself, you may be sure it is in good health. Parrots seem to possess a little of our vanity, for they love admiration, while ill health renders them, as it renders us, careless of it. Keep your bird out of draught. Cover it over at night time, then repeat several times any sentence you wish it to say. Very often they learn it after two or three night's practice. Its attention is not attracted by anything, save the sound of your voice, when it is covered over.—*Gardening Illustrated.*

BOOKS AND PAMPHLETS RECEIVED.

Report of the June meeting of the Portage County, (Ohio,) Horticultural Society.—Mr. Matthew Crawford read a carefully prepared paper on Strawberry culture.

"*The Farmers' Question,*" being a reply to the Cobden Club Tract, entitled "The Western Farmer of America," by Jonathan B. Wise, Cambridge, Mass. A powerful argument for a protective tariff.

The American Newspaper Directory.—By Geo. P. Rowell & Co., New York. Contains an immense amount of useful information, not only about every newspaper published in the United States, but also about every place where a newspaper is published.

Third Annual Report of the North Carolina Agricultural Experiment Station.—This volume contains, in addition to detailed reports of analyses and statistics, a most valuable and carefully prepared essay on "Seed Examinations," and "The Quality of American Seeds," by Dr. A. R. Ledoux, the director of the station.

History of "Jersey Farm Dairy," San Bruno, California.—Mr. R. G. Sneath, the proprietor, relates in this little pamphlet the history and mode of management of his herd of 1,000 head, on his 2,700 acre farm, near San Francisco. The milk is delivered direct to the consumers at 10 cents per single quart, and for less by larger quantities.

Prospectus of Barnum's Museum Company.—The proprietors of this enterprise intend to erect, on the site of Gilmore's Garden, where the exhibitions of the New York Horticultural Society were held for many years, an immense building for the entertainment and instruction of the masses. The top floor will be laid out into a vast tropical garden, open in summer and covered with a glass roof during winter.

The Western Farmer of America, by Augustus Mogredien, published by the Cobden Club, a pamphlet of thirty pages, in which the author endeavors to prove that if the import duties on English goods were abolished, and our factories, mines, and foundries closed, whereby millions of industrious laborers would be thrown out of employment, the condition of our farmers would become much improved.

Henderson's Hand-Book of Plants.—Expected to be ready by February 1st. This work is intended to fill the much felt want of a Dictionary of Plants, both useful and ornamental. From the prospectus before us, and from the thorough and practical knowledge of the author, Mr. Peter Henderson, on all subjects pertaining to horticulture, a most valuable addition to the horticultural literature, may be expected. The volume will be mailed from this office for $3.00.

Quarterly Report of the Kansas State Board of Agriculture.—A pamphlet of 156 pages, containing exhaustive statistics relative to the agricultural and horticultural resources of the State. The work here accomplished by the State Board of Agriculture, for the farmers of the State, and those who contemplate making Kansas their home, will be worth many times its cost to the State. The volume may be procured by inclosing the postage (five cents) to the Secretary of the Board, J. K. Hudson, Topeka, Kansas.

Farm Homes, In-Doors and Out-Doors, by E. H. Leland. Published by the Orange Judd Company. Like "good wine needs no label," so this little volume has and needs no preface. The author starts right on with his subject and treats in a practical, and at the same time attractive manner, nearly all topics connected with rural life; Buildings, Furniture, the Dairy, the Garden and Cooking,—and many excellent directions are given under this heading according to the opinion of one who understands the subject. The closing chapters, especially, on how to provide simple and cheap Luxuries, on Farm Neighborhoods and Farmers' Wives, contain many valuable suggestions about how to make farm house work easier and country life more cheerful and sociable. With the exception of the chapters on Fruits and Vegetables, in which the author is hardly up with the times, the work is highly commendable. The book is handsomely and tastefully gotten up, and may be obtained from this office at $1.50, by mail.

ANSWERS TO CORRESPONDENTS.

Kale.—SUBSCRIBER, *Vt.*—Kale does not require protection in winter; in fact it does not become fit for use until after a few sharp frosts.

Potatoes.—E. M., *Lancaster, Pa.*—Early Potatoes, which have been ripe in July, should have been dug shortly after ripening. Early, that is quick maturing, varieties, if wanted for winter use and for seed, should not be planted early.

Evergreen Climbers—Mrs. B. B. S.—*Homer, La.*—Climbing Euonymus (Euonymus radicas,) Climbing Hydrangea (Schizophragma Hydrangeoides) and several species of Honeysuckle, especially Lonicera Halliana are among the best hardy evergreen climbers. If limited to only one kind, we should choose the latter.

Propagating Violets.—SUBSCRIBER *Troy, N. Y.*—Violets are generally propagated by dividing the old stools or by layering the offsets and, when rooted, detaching and planting them similar to Strawberry plants. They can be grown from seed, but plants are so cheap and easily obtained that this is hardly worth the trouble.

Smilax from Seed.—SUBSCRIBER—The seed should be soaked in warm water before sowing. It requires a high temperature with bottom heat, if possible. A propagating box, like the one described on another page would answer the purpose. When the plants are about two inches high they have to be transplanted into small pots and kept in a warm, moist atmosphere, and never allowed to become dry, except during their season of rest.

How to destroy Insects on Roses.—This inquiry of several readers is answered by Rob. Stark, Woodstock, Ont. 5 pounds Lime, 3 pounds coarse Tobacco, ½ pound Sulphur. Slack the lime, and when it is hot and about the consistency of paste add the sulphur, which must be thoroughly mixed with it, then add three gallons of water; allow the whole to settle and pour off the liquid. Steep the tobacco in five pailfuls of boiling water for twelve hours, and then add the lime and sulphur water. It is then ready for use and should be used with a syringe.

Keeping Bulbs. MISS L. F. L., *Fall River, Mass.*—Gladiolus bulbs must be entirely dry to keep well. The bulbs should be lifted without pulling off the stalks, tied into small bundles, and hung up in an airy place, but not exposed to the sun. After the stalks have become entirely dry, cut them off about half an inch from the bulb. The old bulb is then twisted off, and the bulbs for next year's planting are ready for storing away. They keep best in a cool, dry place, where the temperature never falls below the freezing point. If a dry storage place cannot be secured, it is advisable to pack the bulbs between layers of dry sawdust.

Th. J.—*Dorchester, Neb.*—*Girdling* or *Ringing* consists in cutting a narrow ring of bark from the branches of fruit trees. This impedes a part of the descending sap from returning below the incision and consequently the sap which would otherwise have returned to the roots and from there would have been distributed through the entire tree, is accumulated in the girdled limb. An increase of fertility in this branch is the result. This process does not promote the general health of the tree however. Judicious pruning, training and cultivation are the means employed by fruit growers, for the healthy production of fruit.

Preserving Dahlia Tubers.—R. L., *Mass.*—A correspondent of the *Gardener's Record* writes: "Though carefully dried before storing away in the autumn, I used continually to lose them by the rotting of the crown, till at length it occurred to me it was occasioned through the decay of the long stalk left attached to the tubers; this becoming partially charged with fluid, kept the crown constantly wet. My remedy has been to leave not more than four inches of stalk; from this to scrape the whole of the outer covering or bark, and at the base to make a small opening which permits any watery deposit to escape. The result has been, I have preserved the whole of my tubers, while experienced gardeners around me have complained of loss, notwithstanding that every precaution from damp or frost has been taken."

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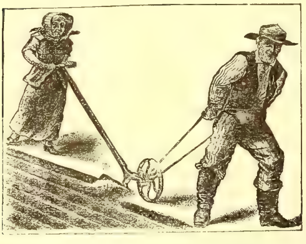

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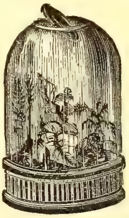

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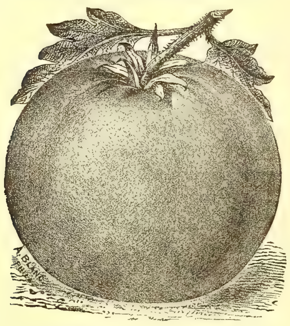

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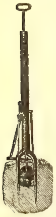

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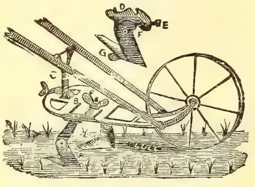

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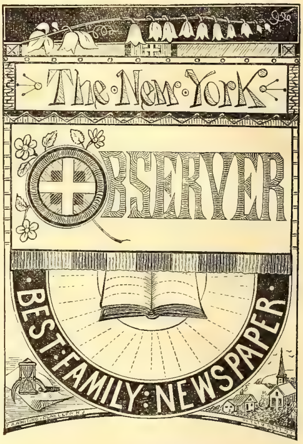

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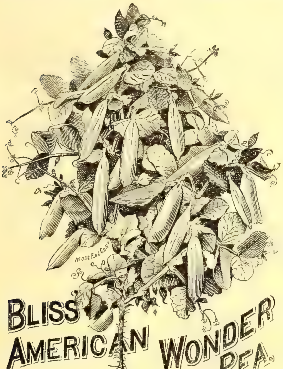
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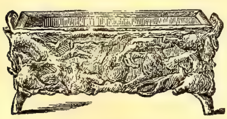

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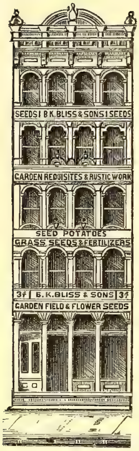
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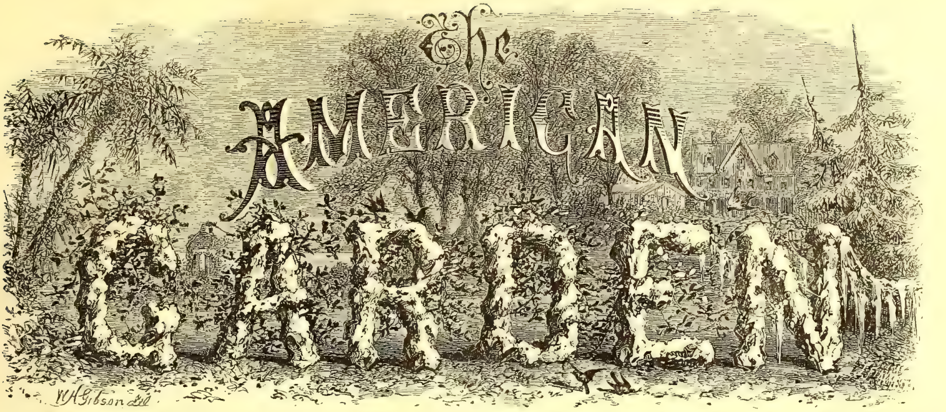

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The American Garden.

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FASHION VERSUS TASTE.

Single buds of Gen. Jacqueminot Roses were sold on New Year's Day, in this city, for from two to four dollars, and even at these extravagant prices the supply fell short of the demand, so that one wealthy young gentleman considered himself fortunate to be able to procure the last four Roses of New Year's Day for fifty dollars, rather than appear before his bride without a gift of Rose-buds.

Is this an indication of an increasing taste for flowers? We think not, and if it were, it would be but a doubtful compliment to the æsthetics of our fashionable society if it had required all this time to discover the beauties of the Rose.

Pleasant as is the custom of sending one's New Year's compliments to his lady friends in the shape of fresh flowers, the fact that this year it cannot be done in any other form than Gen. Jacqueminot Roses is no more a sign of refined taste or individual preference than is the wearing of one-button gloves or the crinoline so soon as fashion dictates.

Violets and Lilies of the Valley are also admissible, and, strange to say, a bunch of Daisies—particularly when they are called "Paris Daisies"—may find an honored place in the most fashionable parlors, while a few years ago the offering of a bunch of Daisies to a lady would have been considered an insult. Is it taste that rules the queenly Camellia and sweet Orange blossoms out, and Daisies and Tulips into fashion? Even the graceful Smilax, decreed fashionable by the whim of an opera prima donna, is losing caste in society, to be supplanted by Fern leaves, which should never have been ruled out.

These various freaks in floral fashions may add something to the stock of botanical knowledge of our city belles, but taste—a clear perception and appreciation of beauty and excellence—is rarely developed by fashion, which often takes retrograde steps and brings faulty modes and ill-shaped forms into common use, which, by their frequent contact, rather dull the taste for real art and beauty. A fine taste is not created by a freak of fashion: it is either born with us or is the result of careful study and high culture.

NOTICES OF THE PRESS.

Better and better grows The American Garden with each succeeding number. It is just what every lady ought to have, and it only costs twenty-five cents per year.—*Vermont Farmer.*

The American Garden fully justifies the good opinion we conceived of it when Messrs. Bliss & Sons issued the first number. The fact that Dr. Hexamer edits it is sufficient to bespeak for it the confidence of the gardening public.—*Centre Democrat.*

The American Garden, a very handsome quarterly, published by B. K. Bliss & Sons, New York, and edited by Dr. F. M. Hexamer, has greatly improved since it has changed hands. Its leading articles are ably written, and its selections such as are sure to please and instruct.—*Floral Cabinet.*

The American Garden was first published as a monthly by a Brooklyn seed-house, and after various changes has passed into the hands of Messrs. B. K. Bliss & Sons. Being edited by Dr. F. M. Hexamer, the readers will be sure that its teachings will be sound and practical, and that it will not be a mere advertising sheet.—*American Agriculturist.*

The American Garden, a quarterly journal. devoted to the cause of horticulture and floriculture, is now published by Messrs. B. K. Bliss & Sons, of New York. Dr. F. M. Hexamer, a veteran in such work, has editorial charge of the publication. It is an elegantly gotten-up little periodical, filled with interesting and profitable articles on the various branches of the gardening interests of the country, prepared by recognized authorities in such matters.—*Plainfield Bulletin.*

The American Garden grows to sixteen pages for the January number. It is edited by Dr. F. M. Hexamer, an acknowledged authority in all gardening matters, and its handsome pages are so well and interestingly filled and illustrated, that everybody who receives it prays that it may be made a monthly, or a weekly, instead of a quarterly. All who ever cultivate a garden should have it, as well for a guide and a reference as for the enjoyment which its pages always furnish to readers at all interested in gardening details.—*Berkshire Courier.*

We have received from the publishers, Messrs. B. K. Bliss & Sons, The American Garden, a quarterly illustrated journal, devoted to the gardening interests of America, and edited by Dr. F. M. Hexamer, so well known in this country as a thoroughly practical man, and an authority upon all subjects relating to flower, fruit, and vegetable culture. It is a handsome little paper, well gotten up, excellently printed, and full of valuable hints and information for those interested in flowers and gardening generally. It is published at twenty-five cents per year, and should be welcomed in every country home.—*Sing Sing Republican.*

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The Vegetable Garden.

SEASONABLE HINTS.

This is a busy season in the garden, and, unless we can work according to previously matured plans, a considerable amount of hurry, vexation, and disappointment can hardly be avoided. There is so much to be done in a short time that, without preparation, all cannot be done in a thorough manner.

In most cases there is not much choice to be had in locating the kitchen-garden; a certain plot of ground near the house is the only convenient place available, and this has to be utilized to the best advantage.

Where a new garden is to be made, and a piece of dry, mellow land with a southerly or south-easterly exposure can be selected, such a location, other conditions being equal, is the most favorable. Yet it is surprising how much thorough and repeated working of the soil and liberal manuring can accomplish, even under naturally unfavorable conditions.

Where early vegetables are desired, dry, light soil and a warm location, sheltered from cold winds, are absolutely necessary. Early vegetables cannot be raised in cold and wet soil. No matter how choice the varieties and how excellent the quality of the seeds may be, unless they are placed under the conditions necessary for germination, they cannot grow.

The beginner in gardening cannot too strongly be cautioned against undertaking too much. The satisfaction and returns derived from a well and constantly cared for garden, however small, are infinitely greater than from a larger one only half-tilled.

As a rule, nothing is gained by sowing or planting before the ground is dry and warm, and in fit condition. The following are the best varieties of vegetables which may be sown as soon as the ground can be worked:

Beets.—Early Egyptian, Long Smooth.

Cabbage.—Early Wakefield, Winnigstadt, Early Savoy.

Carrots.—Early Horn, Improved Long Orange.

Lettuce.—Early Curled Simpson, Hanson, Tennis Ball, Butter.

Onions.—Early Red, New Queen, Yellow Danvers.

Peas.—American Wonder, Alpha, Little Gem, Impr. Daniel O'Rourke, Champion of England.

Radish.—Early Scarlet Turnip, Olive-shaped, White-tipped.

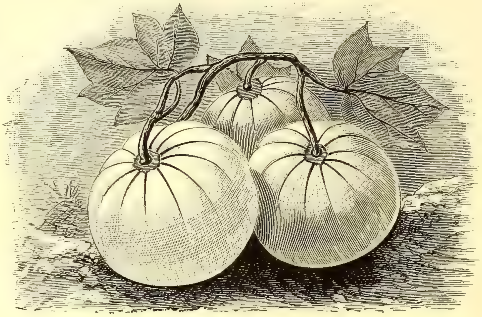
Spinach.—Round-leaved, Savoy-leaved.

The tender varieties should not be sown until the ground is thoroughly warmed and all danger of frost is past.

Potatoes.—For early planting, medium-sized, whole tubers should be used, to prevent rotting, which frequently takes place when cut pieces are used very early in the season. Alpha, Early Vermont, Beauty of Hebron, and Triumph are the best.

NEW VEGETABLES.

We present herewith a few accurate illustrations of some of the novelties described in our last issue. Although we do not advise our readers to invest heavily in all new and high-priced introductions, to us, one of the greatest pleasures of the garden consists in the anticipation and watchful curiosity in the cultivation of novelties. Our expectations are not always realized, but in this case there is some satisfaction in disappointment, even.



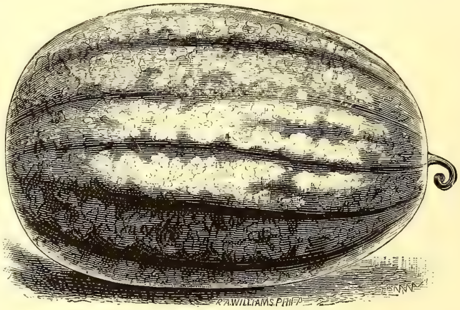
PERFECT GEM SQUASH.

Day's Early Sunrise Pea, introduced from England, where it is held in high esteem, not only as one of the earliest, but as the largest early white wrinkled marrow Pea; it is said to be very prolific, and of superb quality.

Burpee's Netted Gem Musk-Melon.—Small, extra early, very prolific; skin and flesh green, pronounced to be of excellent quality.

Extra Early Purple-top Munich Turnip.—A remarkably handsome and very early Turnip, with a bright purplish-red top and fine mouse-tail root, said to be three weeks earlier than any other variety.

Bay View Musk-Melon.—To produce a Melon better than those already in existence would seem to be a hard task, yet this is what is claimed for this new-comer: "The largest, most prolific, and best flavored Cantaloupe."


R.A. WILLIAMS PHIL.

CUBAN QUEEN WATER-MELON.

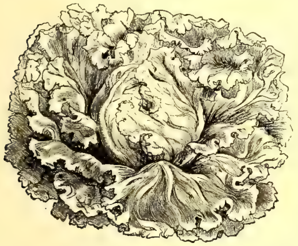
The Rural Corn Yield.—The actual measurement of the Corn raised on the "Rural Farm" exceeds our estimate as given in our last number. The entire yield was weighed and measured on December 5th, showing the enormous product of 134½ bushels of shelled corn per acre.

In reply to several readers, we state that the fertilizers used were "Mapes's Corn" and "Potato Manures."

LETTUCE.

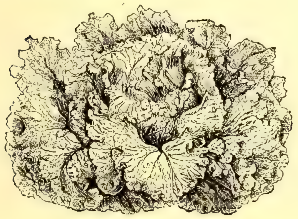
Among the many vegetables which are usually found growing in any well-stocked kitchen-garden, there are none that are more highly prized than one, two, or three varieties of Lettuce. This vegetable is always in season, and always a welcome relish for those who are fond of the choicer productions of the vegetable garden. The wonder is that a vegetable so easily grown, and one that is so highly valued, is not more generally seen in the gardens of the many, instead of the few, for this seems to be the case. In large centers of population, the demand for Lettuce extends the year through, and it is one of the leading crops raised by market gardeners, in the winter under glass, and in the spring and summer as an out-of-door crop. In former years, the bulk of the winter production of Lettuce was raised in hot-beds and cold frames, for the winter and early spring supply. But now a large part of the winter supply is grown in houses, constructed and heated in the same way that the ordinary greenhouses are; and this latter plan is a great improvement on the old-style method. In these houses there are three crops of Lettuce raised between the first of December and the first of May. This plan enables large hotels and first-class restaurants to have Lettuce on their bill of fare at all times through the year. For family use, an early spring supply can easily be raised by planting in a hot-bed at any time that the bed is ready, setting out sixty plants under each sash of 3 x 6—the usual size—giving air in mild weather, and frequent waterings with tepid water. The market gardener always sows the seed for the following year's crop in September. In November, these young plants are "pricked" out close together in an ordinary cold frame, where they are kept until planting time, in March or April.

The plants for the crop of Early Cabbages are set out in rows two feet apart, and a row of Lettuce is set between each two rows of Cabbages. The Lettuce comes to maturity and is marketed before the Cabbages are half grown, and, by economizing ground, a large quantity of produce is raised from a comparatively small surface. When the Lettuce plants have not been kept over through the winter, then sow a small quantity of seed in a hot-bed at the time of sowing Tomatoes, Egg-plants, and other seeds wanted to stock the garden. Seeds sown in this way may be planted in the open ground, in the latter part of April, and unless checked by cold, frosty weather, will grow rapidly, giving some for table use in five weeks from the time of planting. Cold-frame plants can be set in the open ground three or four weeks earlier than hot-bed plants; and to gain this advantage in time, and lengthen the season, it is a good plan to buy two or three hundred of plants from some market gardener or seed-store. These can be planted in the garden as soon as the ground is fit to work, and, as a matter of course, will give Lettuce for table use four or five weeks earlier than hot-bed plants. There is one fact that should be borne in mind, that is: to grow crisp and tender Head-Lettuce, the *soil must be mellow and rich.* One of the pleasant features of raising Lettuce for home use is to have it come in succession, and this can only be attained by planting at different times, three or four weeks apart. The way to get early Lettuce has been briefly outlined. The later crops come from sowing the seed in the open ground, in some sheltered spot, as early in the spring as it will do to work the ground. The seed-bed should be made mellow and smooth, and the seed may be sown broadcast or in shallow drills, covered very lightly by raking over the bed with a wooden rake, drawing the rake in the direction of the drills. The latter method is preferable, from the fact that, while the plants are small, the spaces between the rows may be disturbed with a hoe, and the growth of the plants hastened, as well as the weeds kept down.



EARLY CURLED SIMPSON LETTUCE.

There is now a long list of varieties, and unless one has had some experience in raising Lettuce, it is rather difficult to choose and not make an error in the choice. Among the very best sorts to select for family use, one that is widely and favorably known is the "Early Curled Simpson." This Lettuce is a favorite with market gardeners, and is extensively grown in the vicinity of New York for that market. When planted on rich ground, it grows into a large head, that on the table will be found crisp, tender, and of good quality. Another and very excellent variety is the "Hanson" Lettuce, which grows to a large size, forming a solid head, crisp and of fine flavor, and very popular among the consumers. "Tennis Ball," "Boston Market," "Early Butter," and other sorts, are prized on the table, when grown on ground that is in good heart. There is neither profit nor pleasure in attempting to grow Lettuce on poor, thin soil. In planting in the garden, set the Lettuce one foot apart each way, and then keep the ground mellow and free from weeds.



HANSON LETTUCE.

ASPARAGUS CULTURE.

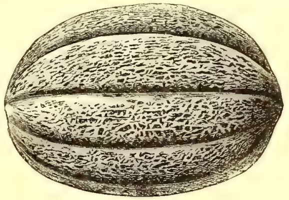
To judge from the fact that we receive more inquiries about Asparagus than almost any other vegetable, it seems that although the mysteries and secrets which were formerly considered necessary for its cultivation have long since been uncovered and proved to be detrimental rather than otherwise, there still clings to the popular mind some mysterious halo connected with the idea of Asparagus culture. And yet it necessitates less labor and expense than almost any other garden vegetable. The roots cost hardly more than the seeds for other vegetables occupying the same space, and the first expense is the only one. While Peas and Lettuce and the whole list of vegetables have to be sown every year, Asparagus yields its delicious crop year after year, without replanting, for generations.

The most frequent cause of failure with Asparagus is too close planting. Favorable soil and good roots are, of course, necessary to obtain good results, but these can amount to but little unless sufficient space is given for their development. A deep, light, sandy loam is best, but with proper preparation any garden soil can be made to produce a good crop. If so heavy and wet that water stands on the ground during winter, under-draining and deep working will be necessary before planting. On ordinary garden soil, deep plowing or spading and the working in of enough stable manure—a coating of four or five inches would not be too much, although less will do—is sufficient. If this can be done during the fall or winter previous to planting, so much the better. Where practicable, it is far better to plant the roots in long rows on one side of the garden than in short beds. A single row of one hundred and fifty or two hundred plants, set eighteen inches or two feet apart, will give an ample supply for a family of half a dozen and, during the height of the season, some to sell or give away to neighbors who are not so fortunate as to delight in an Asparagus-bed. When more than one row has to be planted, they should never be nearer together than three feet, and, unless forced into very narrow limits, a distance of four feet is to be preferred.

After the rows are marked out and the line stretched, a ditch with one side slanting and about twelve inches deep is dug with a sharp spade. Against the smooth side of the ditch the plants are placed, and the roots spread out so that the crowns are four or five inches below the level of the ground. A handful of soil is then drawn over the roots and firmly packed down; more soil is then raked in, so as to fill the ditch to within two or three inches of the surface. In a few weeks the sprouts will appear; the ground has then to be loosened with a cultivator or a hoe, and kept mellow and clean during summer. At each cultivating some soil should be drawn into the remaining ditch, so as gradually to fill it entirely.

Often it becomes desirable to plant Asparagus without sufficient preparation having been given to the soil. In such cases, a trench may be dug eighteen inches deep and twelve or fifteen inches wide. Rich stable-manure is put into the trench and trodden down so as to fill it one-half. A layer of three inches of fine surface-soil is thrown on the manure and shaped into a ridge, with its highest point in the center of the ditch; on this ridge the roots are placed at the proper distances, the rootlets evenly spread out toward the sides and covered with about one inch of soil, which has to be firmly packed down, especially over the lower ends of the roots; one-half of the remaining ditch is then filled in, and the rest not before the shoots have grown several inches above the level of the ground. The subsequent cultivation is the same as given above.

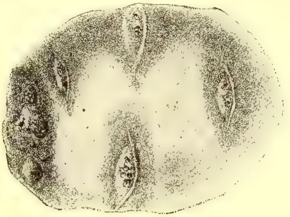
During the second year, no care is required except to keep the bed clear until the stalks cover the entire ground. The third year, and not sooner, the cutting may commence, but if there are any roots which have not made a very strong growth it is best not to cut from these, and, in fact, as soon as any plants show lack of vigor the cutting should be discontinued. Many Asparagus-beds are ruined by too long-continued cutting. We have found it a good rule to commence cutting as soon as the first stalks appear, and stop with the beginning of Strawberry picking.



BAY VIEW MELON.

Immediately after the cutting season, when the roots are enfeebled by the severe tax of having produced many times more than their natural requirements of stalks, is the best time for manuring, yet an application of fertilizers does not come amiss at any time.

The stems, which, after the cutting season, shoot up with great rapidity, should not be disturbed until they die off naturally, when they should be cut and burned. Salt is, by general consent, considered a special fertilizer for Asparagus. We have during several years applied salt to one part of our bed, and not to the other, without perceiving the least difference in the respective yields. At any rate, salt can do no harm, no matter how liberally applied. Stable-manure, bone-meal, superphosphates, and, in fact, almost any kind of fertilizer and plenty of it, are beneficial to Asparagus.



EXTRA EARLY PEACH BLOW.

Hot-beds.—In the Northern States, where it is not safe to trust Tomatoes, Peppers, and other tender plants to the open ground before the middle of May, much advantage may yet be derived from hot-beds made during April. Full directions for the construction and care of hot-beds were given in our January number.

The Fruit Garden.

SEASONABLE HINTS.

If pruning of trees, bushes, or vines is not yet completed, not a moment should be lost in finishing the work. It is a mistake to suppose that liberal manuring and good cultivation alone will produce fruitfulness; without judicious pruning these means will, in many cases, only increase barrenness.

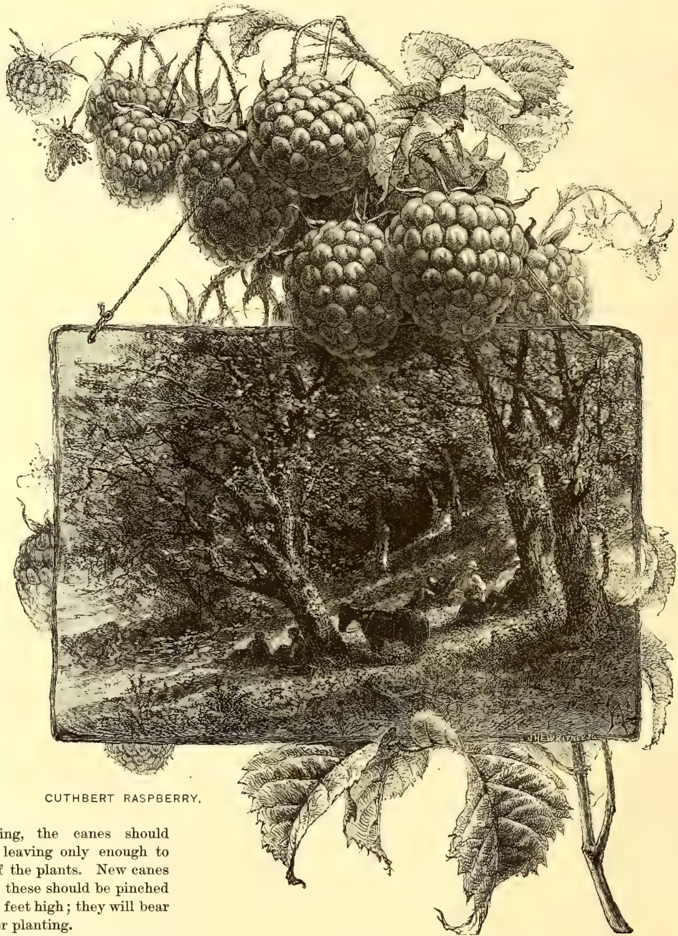
Ordering plants and trees from nurseries should not be delayed until a few days before planting-time. Although reputable dealers try to furnish good stock to all of their customers, yet here, as in other trades, the rule of "first come, first served" has, of necessity, to be somewhat observed, and those who order early will rarely be disappointed.

Strawberries.—With proper management, Strawberries may be planted at any time during spring, until fruit sets, yet the sooner they are planted after the ground becomes fit to be worked the better. At planting, all blossoms and flower-buds should be pinched off, and leaves and roots shortened. Pack the soil firmly around the roots, but not on the surface, and do not cover the heart of the plant.

Raspberries and Blackberries should be planted as early as possible; after planting, the canes should be cut off entirely, leaving only enough to mark the position of the plants. New canes will soon spring up; these should be pinched in when about three feet high; they will bear the second year after planting.

Currants and Gooseberries, if allowed to grow unpruned for several successive years, will soon become a mass of slender, weak shoots, that will produce only small fruit, and this, too, notwithstanding they may have received an annual dressing of manure. Old, neglected bushes had better be replaced with young plants than to spend time and manure in the attempt to renovate them.

Grapes.—However limited one's ground may be, for a grape-vine there is always room; even in a flower-pot a grape-vine may often be grown with gratifying results.



CUTHBERT RASPBERRY.

NOONING UNDER THE TREES.

THE CUTHBERT RASPBERRY.

If it were better known that Raspberries can be as cheaply grown as green Peas, taking measure for measure, and that little or no more skill is required on the part of the grower, surely they would be more generally planted. Raspberries, in a sense, may be said to be like Potatoes—they are substantial! In another particular, also, do they resemble that important vegetable—the varieties rapidly deteriorate. A celebrated horticulturist compared them, in this respect, to the waves of the ocean. "New ones," he said, "constantly appear, pass, and disappear, and are quickly succeeded by others. And such, in all probability, will ever be the case." Whether this fact is owing to our present system of culture, or an inherent characteristic of the fruit, who can tell? That varieties do deteriorate, however, and especially in vigor and hardiness of the canes, must be admitted; otherwise, what has become of such fine and, in their day, popular varieties as the Hornet, Clarke, Catawissa, Fastolff, Knevet's Giant, etc.? Even that venerable variety, the Hudson River Antwerp, has of late become so unreliable that it is rapidly passing out of culture.

The subject of these notes, the Cuthbert, is a chance seedling that sprung up in the garden of the late Thomas Cuthbert, at Riverdale-on-the-Hudson (now a part of New York city), and, from all appearances, is a hybrid between the European and our Red American species—possessing the tall, strong growth of cane and the large, luxuriant foliage of the Antwerp, and the hardihood of the American species. The berries, too, are large, fully equaling in size the well-known Hudson River Antwerp, of a fine, rich, red color,—which, however, is a shade darker than the Antwerp or Brandywine,—unusually firm, rather long, and formed of many drupes or "grains," closely wedged together. In quality, it is juicy, rich, and with just enough acid to prevent cloying; it is more than "good"—it is "very good"; although, in pomological parlance, it could scarcely be termed "best." In time of ripening it is medium to very late. For the home garden, in order to get the benefit of the whole season, there should be planted in connection with it some early variety, as the Turner or Herstine, to precede it, but its fruiting season is longer than that of any other Raspberry. In productiveness and vigor it is somewhat remarkable, suffering a vast amount of "wholesome neglect" with impunity, and, with good culture, yielding an amount of fruit that is simply astonishing. It has now been fruited in almost every State in the Union, and, after thorough trial and careful observations, the Cuthbert may be considered decidedly the most desirable Raspberry extant; in fact, its combination of excellences—its large size and handsome appearance, its firmness and fine flavor, its vigor, hardiness, general adaptability and great productiveness—place it apart from other varieties and leave it, as it stands to-day, without a peer and without a rival. From all indications, this Raspberry will soon become as popular as the Concord Grape, Baldwin Apple, and Bartlett Pear, with which worthy varieties of fruit it may justly be classed.

[The accompanying beautiful illustration is from Rev. E. P. Roe's excellent work, "Success with Small Fruits," and is used here by the kind permission of its publishers, Messrs. Dodd, Mead & Co., New York.]

CURRANTS.

If there is any living thing that possesses the Christian virtue of returning good for evil in a higher degree than the Currant-bush, we should like to know its name. Neglected and despised in an out-of-the-way corner, half-smothered under a tumbled-down garden-wall, or on a rubbish heap where nothing else could grow, a few Currant-bushes are frequently tolerated, and never thought of until the scorching July sun makes our system long for cooling and refreshing fruit acids. It is then that we call to mind our patient Currant-bushes, and become eager to gather—without blushing—their bright, glossy clusters, as interest for the worthless spot we have suffered them to occupy. Perhaps the advent of the Currant-worm is only a blessing in disguise, sent to teach us more charity and wisdom, and to compel us to give better treatment to our much misused bushes. Try it for once to give the Currants a respectable place in the garden, and cultivate them like any other shrub or plant which you expect to bear fruit, and you will soon become convinced that "it pays" to give fair play even to a Currant-bush.

AMERICAN WINES.

The Wine industry of the United States is rapidly increasing in importance. Missouri has 1500 acres in vineyards, producing over 500,000 gallons of Wine; the Lake Erie islands and vicinity have 4000 acres, producing 16,000,000 pounds of Grapes, used mostly for Wine; California has 60,000 acres in Grapes, producing now 12,000,000 gallons of Wine, which quantity will be doubled within a few years, when all the young vineyards come into bearing. In Western New York, Virginia, New Jersey, North Carolina, and other States, thousands of acres are already devoted to vineyards. Notwithstanding these facts, a leading French journal on Viniculture says: "We are aware that the Grape is cultivated in America less for the making of Wine—which nobody drinks—than for the trade in Grape-wood."

It is true that we have sent many millions of cuttings from our vigorous native species to France, to give new life to her Phylloxera-smitten vineyards; and that the importation of French Wines has so much decreased within the last few years as to alarm the French Grape-growers. This, however, is not owing to the fact that "nobody drinks Wine in America," but that our own Wines have become so much better in quality and lower in price that they are gradually driving the foreign Wines out of our market, and are already competing with them in European markets also. New York City alone has received 2,500,000 gallons of native Wines during the past year.

THE BEST APPLES.

"Good-morning, sir. I have called to consult with you in regard to a few Apple-trees for my garden, as your soil and situation do not materially differ from my own. My ground is limited, and I wish an assortment of such varieties as will be likely to succeed, and I thought your experience would be a guide to me."

Perhaps so. How many kinds do you want?

"I have room for only five trees."

You cannot have much of a variety with that number. What kinds have you in your mind that you think you would like to have?

"Well, I have made this list. Holland Pippin, Spitzenberg, Northern Spy, Newtown Pippin, and King of Tompkins County. How do they succeed here?"

Regarding the first, I have no experience, but I have with the Fall Pippin, a little later and better Apple, and I should not hesitate to recommend it as a substitute. The Esopus Spitzenberg, though a fine variety for cooking or the market, never was a favorite with me as a dessert fruit on account of its close grain and firm flesh, and, from all I learn, it has not given very good satisfaction in this vicinity by those who have tried it. The Spy is excellent, a good producer when it gets at it, rather tardy in that respect, and it has a habit of rotting badly when grown here. Western fruit keeps much better. The Newtown Pippin is generally a failure here of late years, though old trees this year have done well, but it seems to be more at home in New York State, along the Hudson. I have no personal experience with the King, but I know of an instance, not many miles away, where a party put out an orchard of them when they were first introduced, and when they came into bearing they were so unsatisfactory from some cause that he put new heads on all but one.

"What would you name instead?"

Baldwin, most decidedly; it is an excellent Apple, and does well, generally. I only regret it does not keep longer. All our winter Apples, of late years, ripen earlier than formerly. For Newtown Pippin, I would suggest Peck's Pleasant, an excellent, fine-grained, high-flavored, good-keeping Apple. I consider it the best of its season, December to March. Then, there is the old and universally popular Rhode Island Greening, Smith's Cider, Ben Davis, Roxbury Russet, etc., so that it ought not to be a difficult task to supply the place of the Spitzenberg. But wait a moment—with one exception, all the above are winter Apples. What will you do for Apples till these ripen?

"Go without, or depend on the market, I suppose."

Just so; but I have found that generally a dependence on the market for early Apples was nearly equivalent to going without. With only a garden and the few trees you want, you will hardly be able to compete with regular orchardists, and if the case was mine, I should look to a home supply of early fruit, and depend on the market for my winter needs. Summer and early autumn Apples are tender, will neither bear transportation well nor keep long, and a succession, from July on, is a good thing to have.

"Well, that is a view of the matter I had not thought of, and I don't know but you are about right. I will talk with my wife about it and see you again."

All right. "Good-day, sir."

STRAWBERRIES.

To obtain the best results in Strawberry culture, as in anything else, requires considerable skill, care, and labor; it is time and money thrown away to attempt to grow choice Triomphe de Gand, Jucunda, or President Wilder under the slipshod system. There are, however, a number of varieties of a more submissive character, which give a fair return even under neglect, and will, when given even half a chance only, produce bountiful crops of good berries. Charles Downing, Miner's Prolific, Duchess, Cumberland, Kentucky, Captain Jack, Crescent, and a few others, are of this class, and, with such a list to choose from, there remains no valid reason why there should be any garden in the land without its Strawberry-bed, or, better, Strawberry-row. The erroneous idea that Strawberries have to be planted in beds and laboriously cultivated by hand, appears to many a formidable bugbear, and the sooner we do away with this antiquated notion the better, for the health and comfort of all those who have as yet not enjoyed the luxury of picking Strawberries from their own gardens.

Let us have Strawberries with the least possible labor. When garden-making time comes, mark out one furrow in addition to those wanted for Peas, Beans, and other vegetables; in this set out your Strawberry plants a foot apart, as you would Lettuce or Cabbage, and give them the same care—they need no more—as the other plants cultivated in the garden. Next winter cover them lightly with straw, leaves, or corn-stalks, which have to be removed the following spring; and when Strawberry-time comes around again, you will thank The American Garden for the advice it gave you to-day.

Marshall P. Wilder says: "I would rather be the man who shall originate a luscious fruit, suited to cultivation throughout our land, of which successive generations shall partake long after I shall be consigned to the bosom of mother earth, than to wear the crown of the proudest conqueror who has triumphed over his fellow-men."

Firming the Soil.—A common mistake of beginners in planting is to pack the surface of the soil. The packing, or firming, should be done directly around the roots, so as to bring the fine rootlets into immediate contact with soil. The earth which is filled in afterward, and the surface of the ground, should be left as loose and light as possible, so as to admit air and moisture.

Deep Planting.—Do not plant your trees and shrubs deeper than they stood in the nursery rows. You might as well expect a man to breathe when covered with six feet of soil as a tree to live when planted so deep as to deprive its roots of the warmth and air necessary for its life.

Imported Fruits.—The value of fresh fruits imported and entered at the port of New York last year amounted to $3,856,540, being for—

Oranges and Lemons, . .	$2,919,003
Grapes, ...	227,014
Pine-apples, ...	105,297
Bananas, ...	382,473
Cocoa-nuts, ...	213,438
Limes, Shaddocks, and Mangoes,	9,315

The Flower Garden.

THE HEART'S-EASE.

(Pansy.)

There is a little flower that's found
In almost every garden ground;
'Tis lowly, but 'tis sweet,
And if its name express its power,
A more invaluable flower
You'll never, never meet.

No! not the wealth of Chili's mine,
Dear flowret, may compare with thine!
For thee I'd give it all,
But if the wealthy will not bear
Thy modest charms in their parterre,
Grow 'neath my garden wall

I said, in ev'ry garden ground,
Perhaps in Eden 'twas not found,
For there it was not wanted,
But soon as sin and sorrow came,
Thy flow'r received its gladd'ning name,
By Mercy's angel planted.

He took its azure from the sky;
It is the hue of constancy,
And constant should our faith be
With that he mingled splendid gold
To show that if our faith we hold,
We shall be crowned with glory.

Mary, if God, within our bower,
Should plant this lovely little flower,
To tend it be our duty;
Then should there be a smile or tear,
So it be mutual it will rear
And maturate its beauty

—*Village Magazine.*

SEASONABLE HINTS.

In laying out a new garden, the most frequent mistake is to attempt too much. We overrate our own strength and ability, and underestimate the amount of work necessary to keep the beds trim and neat, the walks free from grass, and the lawn clean and smoothly mown. A single flower-bed, judiciously arranged and well kept, gives more pleasure and adds more to the attractive appearance of a home than any number of plants promiscuously set out and left to take care of themselves.

The Wild-Garden.—We are sure that those of our readers who have had a wild-garden last year will not be without one this season,—in fact, they can hardly prevent it, for the biennials and perennials are already nearly full-grown, and many of the seeds of annuals, which matured and dropped on the ground, will germinate and grow now. For the information of our new readers, we may state that "wild-garden seeds" are not seeds of wild flowers, but a mixture of over a hundred varieties of cultivated flowers, among them some of the choicest gems of the flower-garden. These seeds are not intended for stately flower-beds, but for such modest locations where flowers may be grown for their individual beauty.

To make a wild-garden, the ground should be enriched with decayed manure, deeply spaded, mellowed, and leveled; the seeds are then sown broadcast, as evenly as possible, and lightly raked in; or fine, rich soil may be scattered over the bed, so as to cover the seeds lightly. If the ground is very dry, it should be watered occasionally through a fine rose. Our premium packages contain seeds sufficient for a square rod of ground, and should not be crowded into a smaller space.

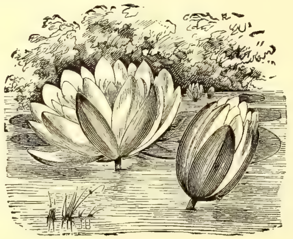
Lilies should be planted as early as the ground can be worked.

Gladiolus may be planted at the same time, and if additional plantings are made from time to time, flowers will be had nearly all summer.

THE WATER-LILY.

(Nymphæa odorata.)

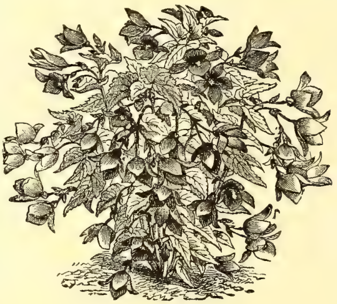
Few flowers combine perfection of shape, delicacy of color, and delightful fragrance in so high degree as our native Water-Lilies. Everybody admires them in their wild state, and the blossoms are eagerly bought when offered for sale in our streets and flower-stores. That we see them so seldom in cultivation seems to indicate that but few persons are aware how easily, and with how small or no expense and little trouble, they may enjoy those beautiful flowers growing in their gardens and lawns.



WATER-LILY.

In natural or artificial ponds with soft, muddy bottoms, Water-Lilies may be planted by tying a stone close to a root and dropping it into the water; they will readily strike root, and need no further care. When the bottom is hard, a good way, and perhaps the best, is to plant the roots in large flower-pots and place these in the pond. The Lilies will generally bloom the first season. At the approach of severe cold weather, about the first of December, the pots should be taken up and placed in a cool cellar where there is no danger of freezing, and removed to the pond again in early spring.

A simple and pretty way of growing Water-Lilies is in tubs. Any half-barrel free from oil, salt, or tar will do; in this put six inches of sandy loam,—equal parts of garden soil and sand,—and plant the roots by pressing them gently into the surface and covering with two to three inches of soil; then fill the tub slowly with water, taking care not to wash the roots out in so doing, and keep full during the season. The tub may be set on the ground and surrounded with rock-work, over which Ivies and other climbers are trained, producing a most pleasing effect. At the end of the season the water should be poured off, and the tub treated in the same manner as recommended for pots.



TUBEROUS-ROOTED BEGONIA.

Another, and in some cases more desirable, way is to sink the tubs to their entire depth in the lawn, where they soon simulate the presence of miniature lakes. During winter these sunken tubs should be covered with boards, and then with leaves or any coarse material. The roots, although hardy in their natural habitat, should, under cultivation, not be left without sufficient protection to preserve them against any peradventure.

TUBEROUS-ROOTED BEGONIAS.

These are a comparatively new class of plants, the parents of which originally came from Bolivia and Peru. The many fine varieties are hybrids of the original species, and are of the most gorgeous colors and most prolific bloomers. They bid fair to make most beautiful bedding-plants for the garden, and their graceful foliage and brilliant flowers make them invaluable for cut-flowers.

How to Sow the Seed.—This can be done either in ordinary flower-pots or shallow seed-pans. In either case, be careful to fill half full of broken pots, and over this place a layer of moss or very rough soil. Then fill up with finely sifted soil, free from manure, to within one inch of the top. The best soil is well-decayed leaves and sandy loam, equal parts. If no sandy soil is at hand, add about one-fourth of either river, lake, or white sand; wet the whole thoroughly with tepid water, then sow the seed, but do not cover the seed with soil. Place over the pot or pan a square of glass; over this lay a piece of paper, or darken it by a light layer of moss; place in a temperature of sixty-five to seventy-five degrees of heat. Be careful not to allow the seed to become either too dry or too wet. In watering, stand the pot in tepid water for a few minutes, and allow the water to soak upward; by no means disturb the surface. If too wet, give a little air by removing the glass for an hour or two. The seedlings will begin to show in a week or ten days, when the covering should be removed gradually.

Pricking-out the Seedlings.—This should be done as soon as the young plants have four leaves, in five-inch pots, well-drained, and using the same kind of soil as for the seed. Fill the pots even full of soil; then with a sharp-pointed stick prick out the plants and place them an inch apart, pressing carefully around each with the stick. When the pot is full, rap it carefully on the bench and give a sprinkling of tepid water through a fine rose. Shade a few days and keep from bright sunshine. After a month the plants will require replanting into separate pots.

Potting the Seedlings.—This should be done as soon as the plants touch each other, using two-inch pots and the same kind of soil as before, following the same rules as to watering and shading. When the pots become filled with roots, the plants should be transferred into larger pots, or may be planted out-of-doors in the open ground, in a partially shaded place, and treated as other ordinary summer plants. In the fall of the year, and before hard frost, they should be taken up and stored away in moderately dry earth, in a temperature not below forty-five degrees or above sixty degrees. In the following spring they can either be planted out-of-doors in May, or grown in pots for window decoration during the summer and fall months.

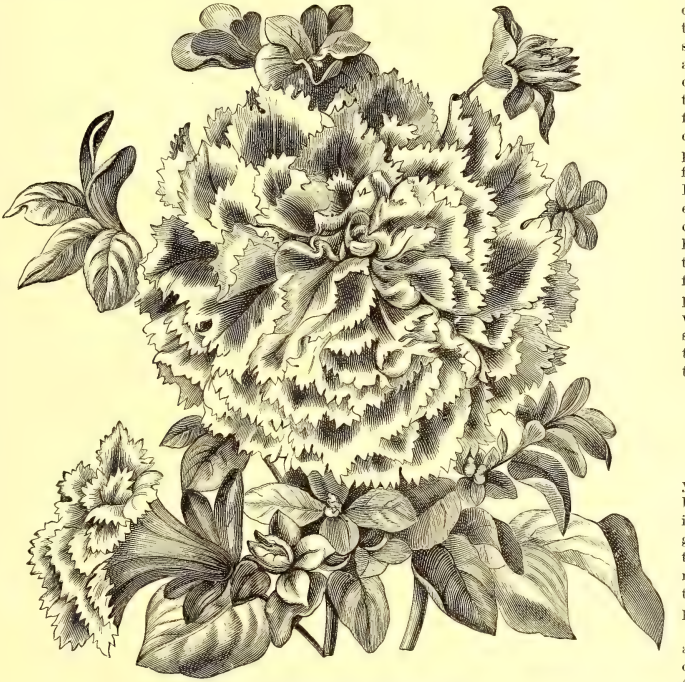
HARDY HERBACEOUS PLANTS.

However attractive a garden may be made during the summer and autumn months by the use of so-called "bedding" plants, such as Heliotropes, Coleus, Geraniums, Cannas, and other tender plants used for that purpose, yet they do not fill up the gap of the spring months when the season is not warm enough to expose them, or the early summer before they have filled up their allotted spaces. During this period, when after a dreary winter a garden is singularly attractive, nothing takes the place of hardy herbaceous plants. When once planted, it may be said, they remain without further trouble, but still some care and labor is necessary in order that they should exhibit their beauties season after season to the greatest advantage. After remaining in the same spot year after year, they deteriorate by the exhaustion of the soil in which they are placed, and, becoming weakened, they present but a poor apology of what they are in their best estate. The remedy for this is division of their roots and renewing of the borders by digging and the application of manure. This operation may be performed with success on many plants the latter part of August, but at that season few care to disturb their borders, so that, on the whole, the spring is not only the most convenient time, but less risk of losing your plants is incurred from drought, which so often accompanies late summer and early autumn. For Pæonias, however, the latter is the preferable season. To begin: the first thing to do is to lift all the plants you wish to divide, and then give the border a good coating of stable-manure and dig it thoroughly, pulverizing the soil as finely as possible. For this purpose a digging-fork is better than a spade, as by its use you are less liable to injure any plants that remain in the border. When the plants are first removed, it is desirable that they should retain a portion of the soil about their roots and be removed to a sheltered, shady spot to prevent their drying up. But when preparing to replant them, shake all the soil from their roots and tear them apart with your hands, removing all roots of grass or weeds which frequently find a resting-place in close contact with those of the plant, removing also all decayed and exhausted portions of the plant. When planting in their proper places, be careful to press the soil firmly about their roots, and if it be dry, a thorough watering will be of advantage before finally smoothing off the border.

The earlier in the spring the work is performed, after the ground is sufficiently dry, the better, as the plants will suffer less injury from the operation than if left later in the season when they have obtained a fuller growth.

All fibrous-rooted herbaceous plants, as Delphiniums, Spiræas, Campanulas, Phloxes, Pyrethrums, Iris, Valerian, etc., are especially benefited by this treatment. Some fleshy and tuberous-rooted plants, as Campanula grandiflora, Dictamnus fraxinella, Asclepias tuberosa, and Œnothera macrocarpa, which it is inexpedient to divide in this manner, are nevertheless also benefited by an occasional removal and replanting.

As a rule, every two or three years will be found sufficient to perform this operation, and the results obtained in a stronger and more vigorous growth and bloom will amply repay the trouble and labor involved.



PETUNIA GRANDIFLORA FIMBRIATA (DOUBLE).

PETUNIAS.

Petunias, like many other flowers, have, in the march of progress and at the hands of persevering and experienced cultivators, been greatly improved, so that those who think them old-fashioned and not worthy of a place in the flower-garden can hardly be aware of the valuable and beautiful strains recently introduced. Instead of the old, dull, colorless, flimsy Petunias, we have now large, double, delicately fringed flowers of most brilliant shades, from pure white and delicate rose to the richest purple and velvety crimson, and with delicious fragrance.

Both the double and single varieties are easily propagated from seed. To have fine flowers, only the best seed must be used, which, though more expensive, will be found cheaper in the end. To have plants in bloom in early summer, the seed should be sown during March or April, in shallow boxes, not more than two inches in depth. Fill them firmly with soil, composed one-third each of decayed leaves or barn-yard manure, rubbed fine, sifted garden soil and road sand, well mixed together. Make the surface of the soil smooth, then sprinkle in the seed, and give the box a jar which will imbed the seed in the soil without covering; in watering, a very fine spray should be given to avoid washing out the seed. Place the box in a warm, light position, shaded from the direct rays of the sun; protect the seedlings, as they appear, from cold currents of air, and when they are about an inch in height transplant singly in small pots or boxes, giving them plenty of sunshine and air, and about the middle of June remove to a well-prepared flower-border, or change to large pots, if intended for house culture. Little care is needed in summer, except occasionally hoeing or loosening the soil to free it from insects. No plants thrive so well on neglect, or so quickly respond to good culture, as the Petunias.

WHEN TO CUT FLOWERS.

The article in your January number upon "Preserving Flowers," suggests the thought that something might be said upon the best time for picking them.

Miss Warner, in a book written for children called "The Three Little Spades," states as a fact that flowers picked with the dew on them will keep their freshness longer than when picked at any other time.

Practical experience proves the statement untrue. Flowers picked at any hour before the sun reaches the meridian wither quickly, and need care in their after treatment. If you are botanizing, you must have a tin box to hold the specimens, or must put the stems in boiling water to revive them, unless you have a Wardian case. Placed in a Wardian case, flowers will revive quickly when thoroughly wilted. But picked in the afternoon, even delicate ferns will bear quite severe treatment, and all flowers will keep their freshness longer.—*Mrs. Parkis, R. I.*

[Our correspondent is correct in her statement, and botanists and florists are well aware that flowers cut when wet from dew or rain do not keep as well as when gathered dry.—Ed.]

Lawn and Landscape.

SUBURBAN LAWNS.

A common size for lawns in suburban towns is one, two, or three acres. People of comfortable means are apt to establish themselves near a large town or city, and in the outskirts of a village, and secure enough ornamental ground around their houses to give themselves the sensation of actually living in the country. But how to plan and plant such an ornamental ground puzzles many, and should puzzle more, if we may judge of their knowledge of landscape gardening from the practical illustrations they offer us.

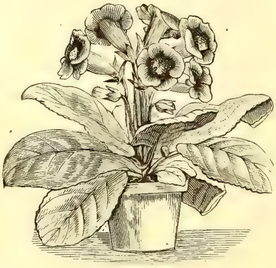
The first thing to do, on considering the character of your lawn with a view to planting, is to look beyond it—to take in, as it were, the entire little world within sight. One generally notices at once some unsightly object—a barn of your own or a neighbor's, a house, a board fence, or a too public street. Shut out all such views with tall, rapid-growing, massive Norway Spruces, planted in irregular, natural groups, some eight feet apart, with a Hemlock, White Pine, or Austrian Pine introduced here and there in the foreground, to vary the monotony of color. If the object to be shut out is on a side of your house where you want to use deciduous plants, employ such trees as Poplars, and Silver and Ash-leaved Maples, with large-growing, bushy shrubs on the outskirts to cover all appearance of "legginess" in the trees. Where a screen only six or eight feet high is required, few deciduous plants prove more satisfactory than the California Privet *(Ligustrum ovalifolium)*. On the inside of the Privet, however, some bushy shrubs should be planted, to cover a "legginess" that is incident to the growth of this hedge-plant, as well as to take away the stiffness that always disfigures the attractions of a hedge as usually constituted.

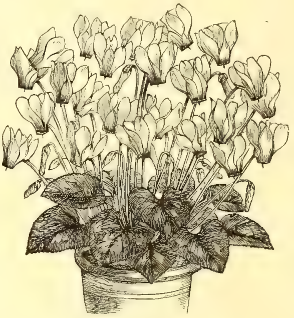
While making plantations of this character, it is often well, in certain bleak positions, to plant wind-breaks on the north and west of the house with the same kinds of trees—Norway Spruces, Hemlocks, and Pines, or Poplars and Maples.

Having undertaken to shut out disagreeable features and to somewhat seclude yourself, you must see that no attractive views, no beautiful vistas, toward the setting sun or over a lake or river, are obliterated. By a little contrivance, you can very often accomplish your object in making a barrier and, at the same time, leave openings by which your finest views are framed in, as it were, and made particularly effective.

When the outskirts or boundaries of the lawn are planted with the large trees you may wish to employ,—Maples, Elms, Lindens, Poplars, Spruces, Pines, and the like, —you may set in their neighborhood, fifteen, twenty, fifty feet away, or, perhaps, on the borders and curves of more remote paths, fine specimens of moderate-sized trees, such as the Purple, Cut-leaved, and Weeping Beeches, the Silver Linden, the Cut-leaved and Purple Birch, Schwerdler's Purple Norway Maple, the Purple and Golden Sycamore Maples, the Eagle Claw and Wier's Cut-leaved Maples, the Gingko Tree, the Golden, Purple, and Pyramidal Oaks, Weeping Elm, Red-flowering Horse-Chestnut, Golden and Dwarf Catalpa, Weeping Japan Cherry, White Fringe and White-flowering Dogwood, Red-berried Euonymus, Golden-leaved Ash and Summer-flowering Kolreuteria, Weeping Larch, tree-like kinds of Magnolias and Double-flowering Peaches, Weeping Taxodium and Virgilea lutea.

Having thus established a suitable framework, use, near the house, dwarf trees like the Japanese Maples, many-colored and formed, Weeping Hemlock, and Noble Silver Fir, as well as the slower growing, more exquisite varieties of deciduous shrubs—Dwarf Flowering Almond, Ghent Azaleas, Rhododendrons, Purple Berberry, Sweet-scented Shrub, Japan Quince, Daphnes, Mezereum and Cneorum, Deutzia gracilis, Exochorda grandiflora, Single White-flowering Althea and the Althea with variegated leaves, Hydrangeas,—paniculata and quercifolia,—Cut-leaved Sumach, Spireas Thunbergii, prunifolia, Reevesii *fl. pl.*, and callosa alba, Japan Snowball, and Variegated Dwarf Weigelia. Dwarf Evergreens, low, bushy varieties of Spruces, Hemlocks, Pines, Firs, Arbor Vitæs, and Japan Cypresses, may stand also near the house, but should be in colonies by themselves.


GLOXINIA.


CYCLAMEN PERSICUM.

If, after making such a selection and disposition of ornamental trees and shrubs, with a careful retention of broad, open surfaces of greensward, you show intelligence in your method of planting,—digging ample holes, spreading the roots out freely, and firmly treading rich loam, mixed with no fresh manure, in the hole,—I am confident that, five years hence, you will pronounce your work of this year a success, and your lawn one of the most indispensable parts of your establishment.

The Window Garden

AND GREENHOUSE.

GLOXINIAS.

The progress of improvement in these plants has been so great during the last ten years as almost to be beyond conception. We look back and remember but a few varieties, these were mostly with drooping flowers and many of them with undecided shades of purple, rose, and red. The varieties of to-day are the most brilliant and decided colors of blue, crimson, purple, deep red, and white, with most variable markings, either blotched margins, spotted or striped; while the individual flowers are of great size, either upright or drooping. To obtain these finer varieties, the very best seed must be secured, and if sown at once, fine blooming plants may easily be had by August or September.

The sowing and subsequent treatment of Gloxinias is similar to that given for Begonias on another page of this issue. The same rules as to soil, watering, and shading apply to both classes of plants, only it must be borne in mind that Gloxinias will not bear bedding out and cannot stand the direct rays of the sun at any time. As the plants grow and the pots get filled with roots, repot from time to time, giving only, at the most, two sizes larger at each remove, and a five-inch pot is the largest size necessary for their blooming successfully the first year. Their period of flowering extends over two months, after which less water should be given, and as the leaves begin to turn yellow discontinue watering altogether. The pots should then be stored in some dry place where the temperature ranges from fifty-five to sixty-five during the winter, and next spring, as they show signs of growing, they should be repotted and started into growth again.

CYCLAMEN PERSICUM.

The mystery that once surrounded the successful cultivation of these beautiful plants has been entirely overcome, and they are now amenable to the simplest treatment. It was once believed it would take at least three seasons to flower them anything like successfully, whereas now fine profusely flowering plants can be had, from seed, within twelve months.

We give the following treatment, and are certain, if followed, the results will be most satisfactory. The seed should be sown at once in well-drained pots or seed-pans, using such soil as Geraniums and Roses grow thriftily in (such as has been described in previous numbers of THE AMERICAN GARDEN), covering the seed to the depth of one-eighth of an inch, and placing in a temperature of from sixty-five to seventy-five degrees, *never allowing the soil to become dry*, and, on the other hand, be careful not to get it too wet. In about twenty-five or thirty days the young plants will make their appearance, when they should have a little more exposure to light, and after the first leaf gets developed they must be pricked out carefully into either very small pots singly, or into five-inch pots, a dozen or more to a pot. In either case, care will be required not to break the very delicate roots. The little bulbs will be quite prominent, and must not be entirely buried in the operation, but should be about one-third of their size above the surface of the soil, placing them as near the light as possible, but not in the direct rays of the sun. As the plants progress, about the middle of May, they can either be placed in a frame with sash over them, giving abundance of air at all times, or plunged out-of-doors in a bed of coal-ashes, with an easterly or north-easterly aspect, for the summer.

They will require to be repotted from time to time, as the pots get full of roots, being careful not to shift into too large pots at once. By the middle of September they should be removed into either greenhouse, conservatory, or windows, bearing in mind to keep them always as close to the direct light as possible. By the middle of November many buds will be formed, when they should have a little stimulating with liquid manure until the flowers show color, after which give only pure water. When in bloom they may be removed to a sitting-room or parlor for weeks without injury. As they go out of flower they will not require so much water, but avoid the old-fashioned plan of drying them off; give them the same treatment as the summer previous, never allowing them to lose their leaves entirely. With this treatment, two-year-old plants ought to bear from one to three hundred blossoms each.

THE GREENHOUSE WILD-GARDEN.

Many of our readers have, doubtless, found great pleasure in devoting a little attention to a wild-garden. There is a peculiar fascination about it that is not found in the more perfect separate culture of the plants.

Those who have greenhouses can have this pleasure all the year round. Generally, we find a very unsightly place under the staging. Yet, if the walks are wide enough for real convenience, there will usually be sufficient light, for three or more feet under the staging, for the growth of many plants that delight in shade, and of some that flourish best in stronger light.

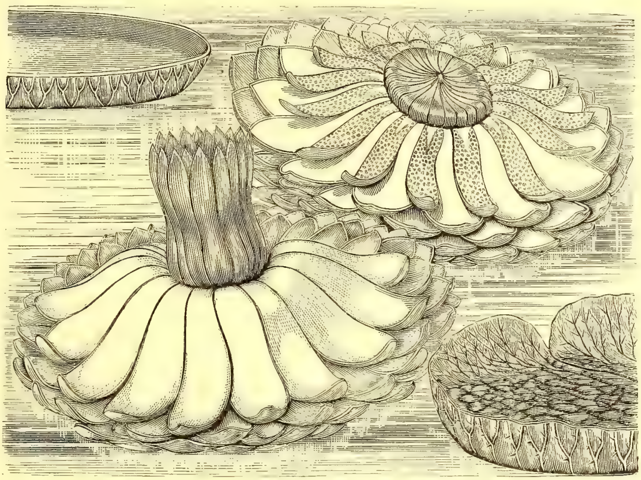
We have prepared the soil by a mixture of loam, leaf-mold, and sand, and have put therein a variety of low-growing or running plants, which were then left to themselves. Lycopodium moss makes the best ground covering, with which there may be planted English and Kenilworth Ivies, Tradescantia discolor, varieties of low-growing Begonias and Begonia Rex, many varieties of Ferns, Saxifrage, etc., etc. A luxuriant tangle of these often excites more admiration than a fine assortment of well-grown plants. In point of beauty, nothing can surpass a fine bed of Lycopodium overrun with a good growth of Cissus discolor. Frequent sprinkling is required.

Foreign Scenery.

THE VICTORIA REGIA AT HOME.

Those who have only seen this magnificent Water-Lily—the largest of all aquatic flowering plants—growing in a greenhouse tank, or shown at some horticultural exhibition, can form little idea of its beauty and grandeur in its wild state. It is a native of the Orinoco and Amazonian regions, but, contrary to general impression, is never found in the Amazon itself. We have picked up small plants floating in the main river, which by a rise of the water had been torn from their beds, but have never heard of any one who had seen a plant growing in the main stream.

Communicating with the Amazon are innumerable smaller channels and lakes; in fact, the whole region on either side of the river is a net-work of water-courses, and it is on these that the Victoria Regia is found.



VICTORIA REGIA.

Often the shallows of the lakes are covered with the huge leaves, the plant growing in the same way as our white Pond-Lily covers the shallows of a pond. Like it, too, the plant will grow in very little water, or where it is very deep.

The Indians say that these immense masses of Lilies float around the lakes, but all we have found were so firmly rooted as to render this impossible. The more shallow channels of the streams are sometimes rendered almost impassable by the great masses of this plant. It has seemed to us almost a sacrilege to paddle our canoe through these masses, breaking up the great leaves and destroying the beautiful flowers.

The plant, glorious as it is when covering the whole surface of the water, is perhaps seen to best advantage where a single plant grows in some little bay; it is individualized, and impresses one more than when numbers are seen together.

Each leaf floats by itself, for the footstalks are very long, and the flowers, which are usually seen in different stages upon the same plant, show far more prominently. The native name of the plant is "*Forna*," so called because the large leaves with the edges turned up one or two inches bear some resemblance to the "*fornas*," or large earthen pans, in which the mandioca, which serves as a substitute for bread, is baked.

Descriptions which have been given have greatly exaggerated the size of the leaves. We have never seen one which measured more than six feet in diameter, and the popular story that small boys can stand upon them is also an absurdity. The leaves are very strong, and the under side is a marvel of intricate net-work. We have often seen large water-birds walking on them, but if a small boy should try the experiment, he would have an immediate opportunity of acquiring an intimate knowledge of the roots of the plant.

Every part of the plant, except the surface of the leaves and the petals of the flowers, is covered with firm, sharp spines, and gathering the flowers is attended with no little difficulty.

We have found flowers every month in the year, but usually more abundantly from November to April. The flowers open at sunset, closing by day, and the first night are pure white; the second, rose colored, and the third, deep crimson, after which the flower-stalk sinks to the bottom to mature the seed. The perfume, which is exquisite, and more powerful on the first than on any succeeding night, is emitted in puffs at intervals of from five to fifteen minutes. Never shall we forget a sail down the Amazon with which the *Victoria Regia* was intimately associated. We had been wandering all day in the "*bargia*" land, and toward evening had come upon a little lake full of these Lilies. The pure white buds were just opening, and our Indian boys went to the house loaded down with the flowers. There we found the good *pádre* of the village, one of whose country-houses it was, awaiting us, and a dinner of fish, turtle, wild ducks, fruits, and other good things prepared. We arranged the Lilies in calabashes, filling all the center of the great table, and they opened while we dined. Afterward we placed them all in the bow of the canoe; the sun had set, the short tropical twilight passed; then uprose the great moon, flooding the scene with light more glorious than that of day; borne by the swift current, we floated for hours down the river, the whole air filled with the fragrance of the Lilies. Can such a night ever be forgotten?

Sub-Tropical Plants—properly planted and grouped on the lawn—produce a beautiful effect. Ricinus, Cannas, Colocasias, Pampas Grass, some Ferns, arranged so that the tallest-growing kinds occupy the center or background, and the whole interspersed with Gladiolus, cannot fail to give satisfaction.

Horticultural Societies.

PROGRESS IN STRAWBERRY CULTURE.

An Address before the New Jersey State Horticultural Society.

By Dr. F. M. Hexamer.

Mr. President: The subject you have assigned to me appears, at a first glance, to be rather discouraging—a topic about which there has so much been said and written that it might be feared the very fountains of life of our Strawberry plants had become dry ere this. But as I have to speak to you about Progress in Strawberry Culture, it becomes necessary to survey our ground, to let the eye glance swiftly over the broad fields, endeavoring to find some firm landmark from which might be obtained a glimpse of the past as well as a view of the present day. It wanders back to the time when a few wagon-loads of wild Hackensack berries, brought across the river in sailing-sloops, as often as twice a week when wind and tide permitted, constituted the entire supply of New York's markets, and when a period of three weeks comprised the limits of the Strawberry season. Let us suppose that we had fallen asleep under one of those piles of quaint splint baskets, Rip Van Winkle like, to awake to-day from our half-century nap in the midst of blooming Strawberry-fields along the shores of the St. John's River, in Florida, where already the pickers are busy on the most southern plantations of our sub-tropical peninsula.

Small and insignificant, like a snow-flake which, rolling down the mountain side, gathers strength as it moves, increasing in dimensions with every moment until it becomes the huge avalanche which carries everything before it, and meets resistance only on the immovable rocks of the snow-capped alps, so do we now perceive on the far-off horizon the incipient formation of a wave of scarlet and crimson. Like the light ripples of a brook, we see it gently flowing northward along the coast and valleys of Georgia and South Carolina, where, at Charleston, it already has grown to respectable dimensions; onward and forward rolls the wave, gathering strength with every moment, and covering a large part of Virginia and Maryland; still it moves on with unabated vigor, sweeping mountain high across Delaware and New Jersey to dash fiercely against the majestic Palisades, the giant fortress of the noble Hudson. Here its force becomes broken and its current divided into two arms, one to flow northward along the shores of the river, the other to take an easterly direction along the coasts of Long Island Sound; both spreading as they move, traversing the larger part of New York and New England, crossing the St. Lawrence to be swept northward over the Dominion of Canada, by the balmy breezes of early summer, until sweetness and fragrance congeal on the ice-bound shores of the sub-arctic region. Six months have passed since we picked the first ripe berries, six months since we started on our journey of two thousand miles. A season of three weeks has been lengthened to six months in less than fifty years; need we look further to perceive Progress in Strawberry Culture?

There is another stand-point from which to measure the progress in Strawberry culture. In 1872, the Strawberries shipped from Charleston to Northern markets brought an average price of fifty-seven cents per quart; in 1874, thirty-eight cents; in 1876, twenty-one cents; in 1879, fourteen cents; and last year, twelve and a half cents per quart. Jucundas from the Knox Farm at Pittsburg brought, in years gone by, from fifty to seventy-five cents per quart at wholesale; and, for several years after the war, first-class Triumphs and other large varieties sold readily for forty and fifty cents per quart, by the crate, while now the very choicest would not bring half as much. This decline in prices is, of course, mainly caused by the larger quantities of berries raised, and partly by the difference in our currency valuation; but there is another important factor which causes the present low prices for first-class fruit. In former years, when our selected Jucundas and Triumphs came to market, the only competition they had to encounter was from small Scotch Runners or sour, sandy Wilsons, and the contrast was so great that buyers paid willingly three and four times more for the best. But now, owing to the rapidly increasing competition and the great improvements in new varieties, poor berries can hardly be sold at any price, and the average market fruit has improved so much that there is but little difference between this and the choicest, and here, as in other trades, a plentiful supply of cheap goods depreciates the value of the better grades.

The most important revolution in Strawberry culture, however, so far as concerns the grower, at least, has been effected by the changing of our markets. The market centers for fruits, as well as other goods, are rarely permanent; they are frequently moving from one place to another, or changing in their respective locations. Many of the prominent business houses in New York have changed several times, within our recollection, the location of their stores, have moved with the migrations of their customers, or have transformed their business in such a way as to conform with the altered conditions. The Strawberry market is not exempt from these fluctuations of trade. A few years ago, New York was the great distributing center of berries for hundreds of miles along every railroad and steam-boat line entering the metropolis; but now the markets of most inland towns and large villages are supplied with home-grown fruits, and only an inconsiderable amount of berries is reshipped from New York. It is therefore that, while the demand for products of nearly all kinds has largely increased during the last years, the amount of perishable berries disposed of in New York has decreased, rather; and while the producers of wheat and corn, of butter and cheese, of beef and pork, and many other farm products find, at home and abroad, new and profitable outlets for their bountiful crops, the small-fruit grower who depends on the New York market finds the demand for his products diminished instead of increased, and, naturally enough, wonders where that much-talked-of national prosperity may be found.

Let us start right here in our search, and we shall find that it is only a few years since Newark obtained its principal supply of Strawberries from New York; but should we ask now where the magnificent berries, which we saw last June displayed in your markets, came from, your Quinns, Durands, Goldsmiths, and other champion Strawberry growers, would resent the question as an insult. To-day the vicinity of this city produces, not only sufficient for its home demands, but enough to return to New York more than what it received in former years, and the growers seem well satisfied with the new order of things. Similar conditions prevail in hundreds, if not thousands, of towns; still, there are many populous inland places which are not yet sufficiently supplied with Strawberries, so that those who start now in fruit culture need have no difficulty in finding favorable locations.

On the other hand, there are large areas where no home market can be created, where nearly every one raises Strawberries, and some large city offers the only market. What shall the fruit-grower do who sees the demand for his crops steadily falling off, or the prices dwindle down so low that both ends cannot be made to meet? The tiller of the soil cannot, as easily as the merchant, move his business-place and follow his customers. Generally he has to stay where he is, and has to find out the most suitable and profitable crops for his soil, for his markets, and for his own qualifications. If he can grow Strawberries better and cheaper than his neighbors, those who understand the least of their culture have sooner or later to leave the business. All cannot live by growing Strawberries; some have to be contented with raising Cabbages, and others with Pea-nuts, each one according to his inclinations and abilities. The law of the survival of the fittest holds as good here as anywhere. The conditions essential for success remain in all places and at all times, but the local and temporary means necessary for its attainment vary in every place and with every year.

Some people are constantly complaining that "business is overdone," that "times have changed," and so they have. We cannot reverse the order of the universe. Times do change, and unless we change with them we have to go under; everything changes with every year, with every day, with every moment,—commercial relations, seasons, vegetation,—the earth itself has changed from vapor into solid matter, and continues to change till the end of time. Without change there is no motion; without motion there is no life; inertia is death. How can *we* expect to remain at a stand-still when everything around us moves?

These various changes in the progress of Strawberry culture have brought us to the present period; they have developed two sharply defined systems, each with its appropriate modes of cultivation, and with its distinct varieties, specially suited for its requirements—the *home market* and the *shipping system*. Strawberry-growing for a home market is almost exclusively a retail business with all its concomitant details, while the grower for a distant market is strictly a wholesaler, who, like the large manufacturer, ships all his goods to a commission merchant, whose business it is to sell to the best advantage of the producer. As in other wholesale trades, success depends mainly upon the talent and management of the owner; and, hardly less, upon sufficient capital, good shipping facilities, competent help, and, in our cases, suitable soil. Where these chief requisites are wanting, no amount of perseverance and energy can produce satisfactory results. In many cases it would, no doubt, be far better to sell out, even at a loss, and seek a locality better suited to one's resources than to persevere in a fruitless toil and hope against hope.

To a man with small means, a good home market offers almost always the largest profits; at least there can be no actual loss, as is frequently the case during a glut in the wholesale markets, when loads after loads of unsold berries have to be dumped into the rivers. The cost of picking, freights, cartage, and other unavoidable expenses have to be paid by the grower, whether he receives anything for his berries or not. These expenses can be saved in a local market, as the berries may be left on the vines if there should be a temporary lull in the demand. To this necessity, however, an active and energetic man will hardly ever be compelled; a little forethought and effort will readily open new channels.

The study of the requirements of one's markets is in either case of the greatest importance, but with a direct market, where the grower becomes personally acquainted with his customers, such knowledge is easier obtained. As a rule, it is poor policy to try to coax or force new things on the market, expecting to create a demand for them. It matters but little how desirable *we* consider the article—people know generally just what they want and will have nothing else; it is, therefore, ordinarily more profitable to find out what there is a demand for, and then try to supply it as well and as cheap as we can.

It would be to little purpose to attempt to give here specific directions for the culture of Strawberries. In fact, I think, one of the most decided additions we have made to our stock of practical science consists in the knowledge that but few, if any, rules can be laid down which are equally applicable to all conditions and in all localities. Each one has to observe and study his own markets, his own soil, and the varieties, fertilizers, and cultivation best adapted for the same. We have to practice what observation and experience have taught us. The keenest observers, and those who can draw the most correct conclusions from their experiences, and will apply them judiciously, are always the most successful.

(To be concluded in our next number.)

THE AMERICAN POMOLOGICAL SOCIETY.—The next meeting of this society will be held at Boston on the 14th, 15th, and 16th of September next. During its two previous meetings, the Society was deprived of the presence of its venerable president, Col. Marshall P. Wilder, and, not wishing to run a similar risk, it was resolved at the last meeting in Rochester that, if the president could not come to the next session, the session had better go to him. (There is nothing new in this plan—Mahomet and the mountain have found this out long ago.) The Massachusetts Horticultural Society will hold its Fall Exhibition at the same time.

THE NEW YORK HORTICULTURAL SOCIETY.—Samuel Sloan, president, James Y. Murkland, secretary. This Society holds its monthly exhibitions and meetings the first Tuesday in each month, at No. 55 West 33d street, at 2 P. M. Efforts are now being made to raise a fund for the erection of a horticultural hall, and $50,000 have already been subscribed by members of the Society.

ANSWERS TO CORRESPONDENTS.

The Squash Bug.—*W. M., Martinsburg, Pa.*—How to destroy this insidious enemy is an important question. Can any of our readers give a specific? Removing of the soil from the upper part of the roots, and filling up with salt and ashes, has been recommended.

Niagara Grape.—In reply to a host of inquiries, we repeat that no Niagara grape-vines are for sale *this year*, and if any one offers such, you may be sure that you get a spurious article. The "Niagara Company" will give due notice as soon as they offer vines for sale.

Azaleas.—*C. V., Birmingham, Conn.*—Azaleas should be repotted as soon as they have done flowering; but unless the roots have become matted around the inner surface of the pots, the plants should not be shifted into larger pots. Azaleas require a fine, peaty soil.

Self-Blanching Celery.—*J. S., Franklin, Idaho.*—There are no strictly "self-blanching" Celeries; all the dwarf sorts are also called "self-blanching." They have to be earthed up like the tall-growing kinds, but need not be sunk into a trench; they are planted on level ground like Cabbage. For full directions on Celery culture, see last July number of AMERICAN GARDEN.

Onions from Seed.—*C. B. G., Albemarle Co., Va.*—Good-sized onions can be grown from seed in one year, provided only the best seed is sown, and this as early as the ground can be worked. It is impossible to grow onions during summer; they must make their principal growth before the commencement of the hot and dry season. Sowing too thick is also a frequent cause of failure.

Cactus.—*Subscriber, S. Bend, Ind.*—The main point to be observed about these curious plants is to give them sufficient water during their season of growth and flowering, and none, or very little, during their season of rest. The best time for transplanting is soon after flowering. They will grow in sand, but will thrive much better in a mixture of equal parts of sand, garden loam, and decayed cow-droppings.

Hyacinths.—*W. S. B., Grand Lake, N. B.*—Hyacinth bulbs, growing in the open ground, need not be taken up after flowering, although it is often more convenient to do so. If the bulbs are not planted too close together, some shallow-rooting bedding plants may be planted between them, or seeds of annuals may be sown, so as to produce a pleasing effect all summer. In the fall the bed should be cleaned, lightly forked over, and receive its winter dressing of manure, like newly planted beds.

Osage Orange.—*P. M. W., Marathon, O.*—The seed has to be soaked in lukewarm water for three or four days, changing the water every day. The water is then poured off, and the seeds are covered with flannel and kept in a warm place. In a few days the seeds will commence to sprout, and are then ready for sowing. They are generally sown in drills about half an inch apart. In the fall the plants are taken up and heeled in in a cellar, and in the following spring set out to their permanent location. The usual distance in planting in hedges is fifteen inches.

Sweet Potatoes.—*Subscriber, Barrington Station, Ills.*—The plants, which may be procured from most seed stores and plant dealers, are set out about the first of June, in warm, sandy soil, three feet apart each way, after a shovelful of well-decayed manure has been mixed with the soil in each hill. The ground has to be kept clean and mellow through the growing season, and the vines have to be lifted off the ground frequently to prevent them from taking root. To preserve the tubers in good condition through winter, they must be kept entirely dry, and in a temperature not below sixty degrees.

BOOKS AND PAMPHLETS RECEIVED.

Indications of Character in the Head and Face. By H. S. Drayton, A. M. Published by Fowler & Wells, New York.

Green's Fruit-Grower.—A quarterly, published by C. A. Green, Rochester, N. Y., devoted exclusively to fruits and fruit-growing. Mr. Green has long been favorably known as a successful fruit-grower, and a valued contributor to several agricultural publications. The initial number before us is brim full of solid pomological information, and augurs well for its future.

The Fourth Quarterly Report of the Kansas State Board of Agriculture for 1880.—It is a pamphlet of one hundred and thirty-four pages, containing statistics relative to the agricultural industries of the State, and several papers of interest to farmers generally. This Report may be obtained by inclosing six cents in stamps to the Secretary, J. K. Hudson, Topeka, Kansas.

The Illustrated Scientific News, published by Munn & Co., 37 Park Row, New York, at $1.50 a year, fills the long-felt want of a cheap, popular scientific journal. It contains thirty-two pages, full of excellent engravings and descriptions of novelties in science and the useful arts. This handsome publication will be found instructive and entertaining to all classes, but will be best appreciated by the most intelligent.

Schedule of Prizes offered by the Massachusetts Horticultural Society for the year 1881.—The flourishing condition of this model Horticultural Society may be inferred from the information that over three thousand dollars are appropriated for prizes, to be awarded at the general, and the Azalea, Rose, Strawberry, Pelargonium, Rhododendron, Chrysanthemum, and other special exhibitions. Competition is open to all, whether members or not.

Report of the Commissioner of Agriculture for 1879.—A large volume of over six hundred pages, containing reports of the chemist, statistician, entomologist, botanist, superintendent of the gardens and grounds, and other important papers. In the botanical report a number of the most valuable grasses are described, and so accurately figured that any one can identify them. The commissioner's confidence in the possibility of producing from Sorghum and Maize all the sugar consumed in the United States remains unabated. We learn, also, from the report that 1,545,739 packages of seeds, 60,154 Tea plants, 28,000 Strawberry plants, 70,000 scions of Russian Apples, and many thousands of other plants and cuttings, were distributed during the year.

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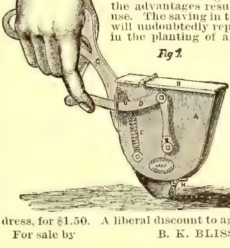

Fig 1.

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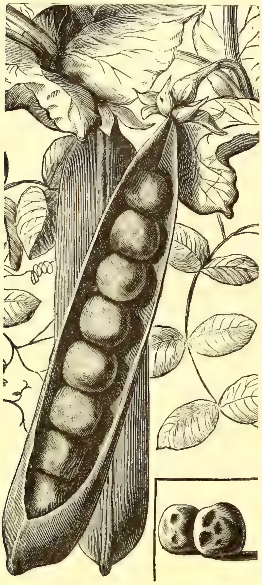

Day's Early Sunrise Pea.

This is a new and distinct variety from England, and is one of the earliest marrow Peas. During the past season, it has been tested by many eminent gardeners, who were unanimous in pronouncing it exceedingly prolific, and of superb quality. It is a white wrinkled marrow, very large for an early Pea, and of fine flavor; while in constitution and habit it is hardy and robust. It is from 2½ to 3 feet in height; the pods, which are long, large, and well filled, are produced in pairs, and almost completely cover the haulm. By its grand size and quality it is specially adapted for market gardeners and for field culture.

Mr. Joseph Collard, Market Gardener, Preston, England, says: "It surpasses anything he has ever seen or grown as a first early or general market variety. The short, thick haulm, and enormous crop of large, well-filled pods, renders it particularly suitable for field culture."

Mr. J. Ford (Gardener to H. R. H. the Duke of Edinburgh), Eastwell, says: "It is of splendid quality, very robust, and as early as 'Ringleader.'" A large wrinkled marrow as early as this requires little recommendation, and is what all gardeners have long wanted.

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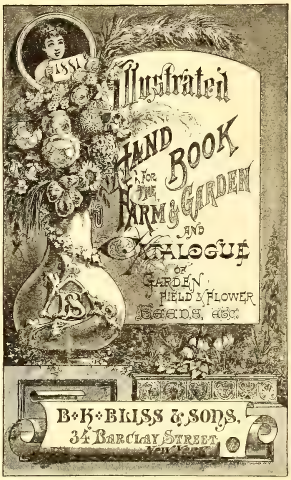

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The papers which have appeared in SCRIBNER'S MONTHLY form the basis of the book, but they have been rewritten and greatly enlarged for the published volume. Mr. Roe has aimed to give the results of his own experience and extensive knowledge of the subject in an attractive and at the same time a thoroughly practical form. The result is a book which, while indispensable to fruit-growers, will be of special value to *every owner of a country home.*

All the illustrations, nearly 100 in number, which have accompanied the magazine articles, are included, and no effort has been spared to render the mechanical execution of first order.

The engraving of the Cuthbert Raspberry, on page 4 of the GARDEN, copied by permission of the publishers, shows the character of the illustrations.

"SUCCESS WITH SMALL FRUITS" is for sale by all book-sellers, and by the publishers. **Price, $5.00.**

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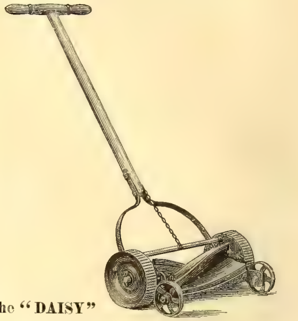

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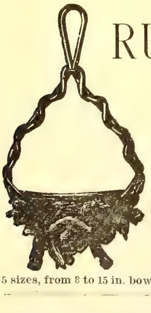

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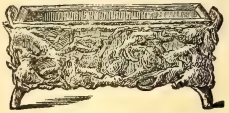

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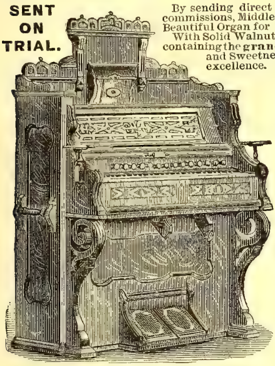

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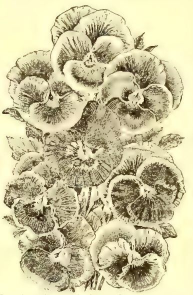

The seed we offer is grown in Germany by one who has made this flower a specialty for many years. In size and beauty of the flowers, this strain is unapproachable. Dr. Thurber says, in the *American Agriculturist* for June:

BEAUTIFUL PANSIES.—No doubt that many who have seen the colored plate illustrating Pansies, and published by Messrs. B. K. Bliss & Sons, have supposed that the artist had exercised his imagination, both as to size, and the strange combinations of colors. So far from this being the case, the flowers are, if anything, rather below the real size, and as to colors, it would be impossible to conceive of any artificial colors more brilliant, or more strangely contrasted, than they are in flowers produced by this remarkable strain of seeds. Some of the blooms are as near black as it is possible for a flower to be, and of a velvety texture of great richness.

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PRICE OF SEEDS.—Mixed Packets of fifty seeds, 50 cents; collections containing one packet each of eight distinct shades, $3.00.

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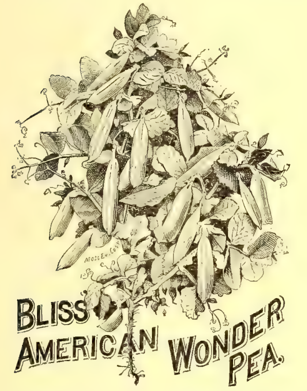

Extra Early. Requires No Bushing. Exquisite Flavor.

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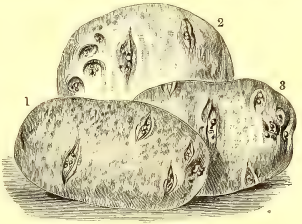

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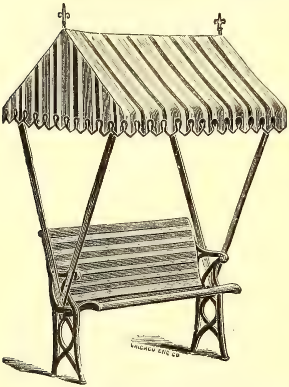

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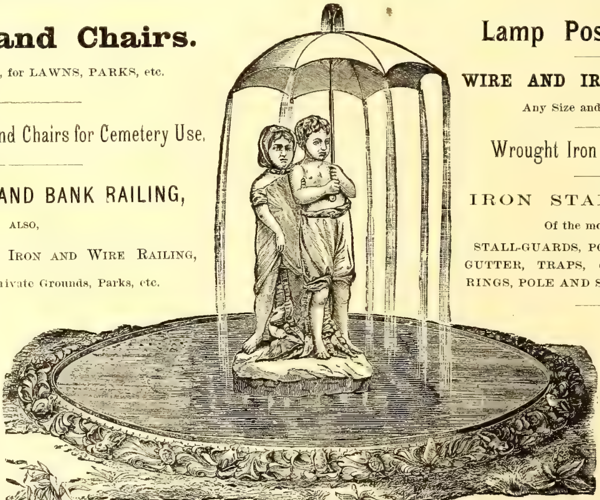

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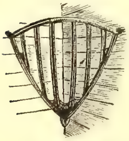

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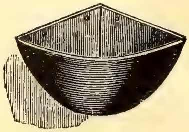

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STRICTLY FIRST-CLASS
Small Fruit Plants.

Strawberries, Raspberries, Blackberries, Currants, Grapes, Gooseberries.

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Cuban Queen Watermelon.

(See engraving on page 2.)

82-Pound Cuban Queen.—This new Melon, from the West Indies, is, without exception, THE LARGEST AND FINEST VARIETY IN THE WORLD. It is remarkable for its *great productiveness, enormous size, handsome appearance, solidity, thin rind, and crisp, sugary flesh.* Shape varies from oblong to oval; it ripens early. *We advise every one of our customers to plant this magnificent new melon.* Please refer to our Novelty Sheet, and read the description of the melon and the liberal cash premiums offered. Price 25 cts. per pkt. of 15 seeds; 5 pkts. for $1.00; 12 pkts. for $2.00.

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(See illustration, page 2.)

Unlike anything before offered, excellent both as a Summer and Winter Squash. It is a very vigorous grower and wonderfully productive. The Squashes are from 4 to 6 inches in diameter, flattened, of a creamy white color, slightly ribbed, and have a thin, smooth skin. The flesh is fine grained, cooks dry, and is of excellent quality and flavor. 25 cts. per pkt.; 5 pkts., $1.00.

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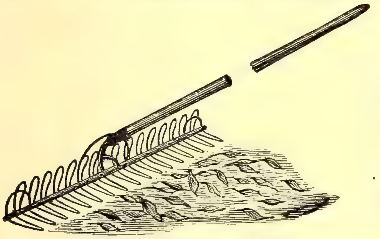
Made in the Most Thorough Manner, of the Best Material, Best Quality of Spring Steel Teeth.



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Will level and prepare a garden bed for the seed better and quicker than any other tool. Will clean a race-track perfectly. Just the thing for ladies wishing open-air exercise. A man with one will do the work of six or eight men in a superior manner. The work is light and easy, as the rake is drawn over the ground instead of being carried. *Landscape gardeners will use no other after trying this.* Grass will grow faster and look much better after being combed a few times with the rake.

It requires many years of great care to produce a fine Lawn, which may be injured, and perhaps ruined, in a short time by using common rakes. Price, $1.00.

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The following new and beautiful varieties of this are the cream of those raised by the most eminent French growers—who have for years made the gladiolus a special study. They far surpass any hitherto offered.

Aurore. Bright salmon rose, striped orange, carmine and lilac, blotched cherry rose, streaked violet. Very bright, lovely shade. $4.00 each.

Brémontier. Bright rose, profusely tinted with carmine, pure white blotch, and bands streaked with violet. Fine effective spike. $4.00 each.

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Dalila. Very finely arranged spike of large bright rose flowers, streaked and flamed with carmine; very large pure white blotch. $5.00 each.

Eclair. Compact spike of middle-sized flowers, bright scarlet, flamed with fiery red; blotch pure white, with broad white bands in the middle of each petal. $4.00 each.

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Talma. Fine spike of rosy carmine flowers, flamed with bright carmine, striped with scarlet and pale violet; blotch amaranth red speckled with sulphur yellow. $4.00 each.

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For a list of the favorite older varieties see our Hand-Book.

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The following collections are made up from many of the named varieties whose names have been lost or mislaid, and from French and American hybridized seedlings:

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Fine mixed varieties for bedding purposes, 75 *cents per dozen*; $2.50 *for fifty*; $4.00 *per hundred*; $30.00 *per thousand*.

B. K. BLISS & SONS, 34 Barclay Street, New-York.

NEW VARIETIES OATS.

PRINGLE'S
New Hybridized Excelsior-Hulless
OATS.

Mr. C. G. Pringle, the well-known successful hybridizer, to whose efforts we are indebted for the celebrated *Champlain* and *Defiance Wheats*, has been successful in imparting important improvements to another cereal. We have purchased the entire stock of this promising novelty, and now offer for the first time **Pringle's Hybridized Excelsior Hulless Oats.**

With a view to impart to the hulless species the size of plant, vigorous habit, and productiveness of one or other of the favorite hulled sorts, Mr. Pringle, amongst other experiments, hybridized the well-known Excelsior Oats with the Chinese Hulless, and the experiment proved highly successful, the result being the variety now offered.

For further particulars see our Illustrated List of novelties, mailed free to all applicants.

Price: Packets containing one ounce, 25 cents; five packets for $1.00.

RUSSIAN WHITE OATS.

Very prolific, straw stiff and free from Rust. Highly recommended by every one who has given them a trial.

Price: 50 cents per three pounds; $1.00 by mail, post-paid; one-half bush., $1.40; bush., $2.25. Imported varieties.

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Another English variety, and one of the most prolific of all *Black Oats*. It has attained an extraordinary reputation wherever it has been grown. It is well known and appreciated over a widely extended area, and the reports of it are highly satisfactory. By mail, one lb., 50 cents; three lbs., $1.00; per peck, $1.25; bush., $4.00.

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EARLY GOLDEN.

This variety originated in Virginia a few years since, by an old cultivator of the Sweet Potato. It is a sport of the old **Early Red,** but is superior to that variety in earliness, productiveness, color, and quality. Slips planted May 10th produce tubers large enough for the market July 25th. On account of its early maturity it is better adapted for cultivation in the Northern States than any other varieties. In shape they are somewhat shorter than the ordinary varieties, of a golden yellow color, cook very dry, and are of superior flavor. Another valuable consideration in favor of this variety is, that they will grow on quite ordinary soil with but a slight coat of manure, and yielded a large crop the past season, upon land that would not grow above fifteen bushels of corn to the acre. In good soil they will produce many specimens weighing three to five pounds each. It is also an excellent keeper. From what we can learn from those who have tested this variety, we think it will prove the most valuable variety in cultivation. Price of slips, by mail, post-paid, 50 cents per dozen; $1.00 for fifty; $1.75 per hundred. By express, at purchaser's expense, $1.25 per hundred; $10.00 per thousand. Price of tubers, 75 cents per pound; 3 pounds for $2.00, by mail. By express, 1 pound, 50 cents; 5 pounds, $2.00; 20 pounds, $5.00; 50 pounds, $10.00. Directions for propagation and culture mailed to applicants.

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For Early Potatoes, Cabbages, Cucumbers, and Early Truck of all kinds.

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For detailed reports of practical results on Corn, Potatoes, Vegetables, Tobacco, Fruit-Trees, Wheat, Rye, Grass crops, etc., see forthcoming pamphlet, sent free on application.

CORN—Six acres, with orchard trees, 168 bushels ears per acre. Variety, Western Dent, 400 pounds of the **Mapes Corn** Manure per acre (cost $10 per acre).
G. HOWARD KING, Stony Brook, Suffolk Co., New York.

CORN—Ten acres. Variety, White Flint (not a heavy yielder). My corn has turned out splendidly; three and four, up to seven ears of corn on a stalk. I send you a stalk with seven ears on when cut. It is remarkable how few nubbins there are. This corn shells out over 80 bushels to the acre. When your representative told me two years ago you could raise 75 bushels shelled corn per acre on these "plains," I thought him too enthusiastic, but on this farm I have proved his statement to be moderate—used three bags per acre, broadcast.
J. G. SHEPARD, Hicksville, Long Island.

CORN—For reports of crops grown during past season, on farm of "Rural New Yorker," at Hewlett's, Long Island, see "Rural New Yorker," October 9th, November 13th and 20th, 1880.

CORN—142 bushels shelled corn per acre. Variety, Blount's Prolific, 500 lbs. per acre Mapes Manure; broadcast.

CORN—300 bushels corn (ears) per acre; 4 acres. Variety, Chester Co., 350 lbs. Mapes Manure, broadcast, per acre.

These crops were examined, and reports published, signed by
ROBERT J. DODGE, C. E., Pres't Farmers' Club, American Institute.
W. M. HABIRSHAW, F. C. S., Chemist N. Y. State Agricultural Society.
L. C. BENEDICT, Ed. "New York World."

Mr. Bruggerhoff (of the firm of James M. Thorburn & Co., seedsmen) was one of those who, a few days previously to the above investigation, estimated the yield of the Chester Co. Mammoth. His estimate was based upon the yield of stooks in the west portion of the field, and, as we have since ascertained, that part of the field yields most heavily. The following is his certificate:

This is to certify, that three stooks of the Chester Co. Mammoth, which I selected as of average size, were husked and measured in my presence, and that at the same rate per acre the yield would be at least 300 bushels of perfect ears.
F. W. BRUGGERHOFF.

These crops were also examined by Prof. A. R. Ledoux, Director of N. C. Station; Dr. F. M. Hexamer, Ed. AMERICAN GARDEN; Dr. Henry Stewart, Agr'l Ed. "New York Times;" Mr. E. Williams, Sec'y N. J. State Horticultural Society. It is claimed by the growers of these crops that they comprise the "GREATEST YIELD OF INDIAN CORN ON RECORD *produced under inexpensive cultivation without farm manure.*"

For further description of these crops see "New York World" (Weekly Ed.), October 13th and October 27th, in editorial, entitled, "HOW TO GROW EXTRA YIELDS OF CORN;" "New York Times" (Weekly Ed.), October 27th, under heading, "LARGE CROPS OF CORN;" "New York Tribune" (Weekly Ed.), November 17th, under heading, "POSSIBILITIES IN THE CORN-FIELD;" "The American Garden," January 1, 1881, "LARGE YIELD OF CORN;" "Rural New Yorker," January 1st, 1881, in editorial, "PROBABLY THE BEST WELL-AUTHENTICATED YIELDS OF CORN ON RECORD WITHOUT FARM MANURE, AND AT SO SMALL A COST;" "Commercial World," etc.

FOR SOME RESULTS ON POTATOES—See reports of E. S. Brownell, Essex Junction, Vt.; Robinson Gordon, Manorville, L. I.; page 16, January number of THE AMERICAN GARDEN.

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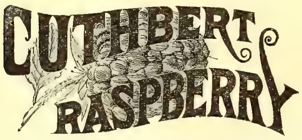

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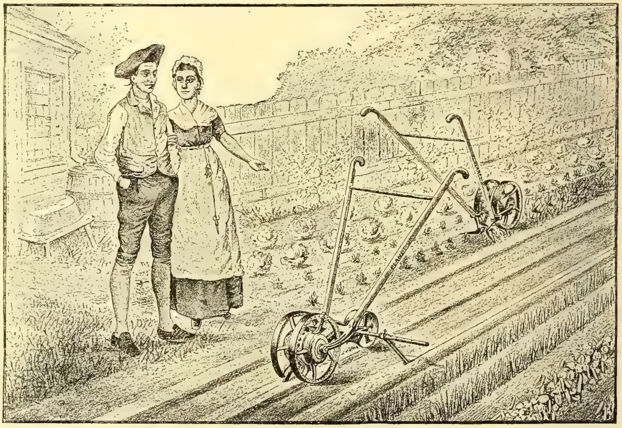

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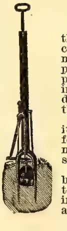

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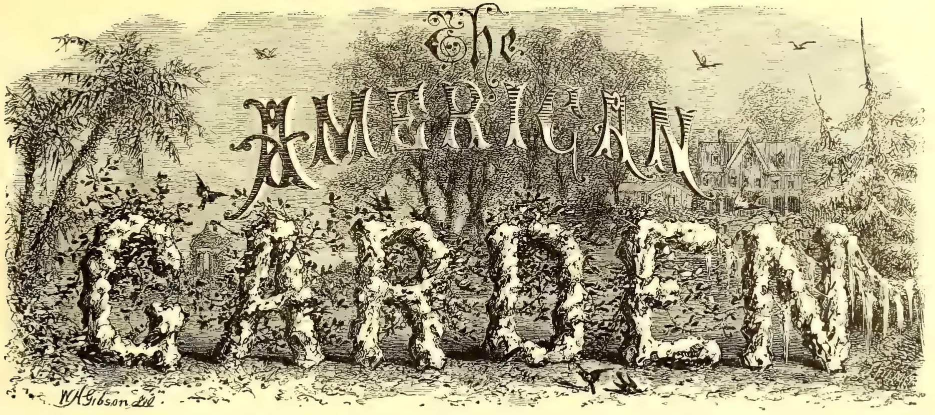

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THE FLOWER MISSION.

Among the many praiseworthy charitable institutions of which New York City can boast, there is none actuated by a sense of more genuine benevolence and true kind-heartedness than the "Flower Mission."

Some people imagine it sentimental and useless to carry flowers to hospital wards and to the sick-beds of wretched tenement-houses. It is true a bunch of flowers does not give shelter to the homeless nor food to the hungry; but there is a large class of unfortunates in this city whose bodily needs have already been provided for by other public institutions, and who still require aid. Thousands of young and old, reared in cheerful country homes, enticed by the treacherous allurements of city life, have sacrificed everything to reach the coveted goal, only to find themselves prostrated and helpless on the hospital cot. Without money, without friends, without hope, they pine away, longing for the green meadows and shady woods so familiar to childhood days. It is in such cases that the unexpected gift of fresh flowers and the tender smiles of a gentle woman impart often a more efficacious stimulus to recovery than druggists' medicines. The powerful curative influences of cheering mental impressions are admitted by all physicians.

We have a beautiful custom of strewing flowers upon the graves of our heroes and those who have sacrificed their lives to save their country. But, while thus honoring the memory of the dead with living green and brilliant flowers, let us not forget the sufferings of the living, and if there are any whose lives can be saved or whose last moments can be made happy by a gift of flowers, by all means let us tender them cheerfully.

Those who have flower gardens can in no easier and less expensive way gladden some suffering fellow-beings than by offering a share of their superfluity. All the express companies entering the city deliver, free of charge, baskets and packages directed to the Flower Mission. Common and old-fashioned as well as wild flowers are as welcome as the rarest exotics. As soon as the flowers are received, the ladies connected with the Mission distribute them among the hospital patients and other sick people, and wherever they may do the most good.

To bring a bunch of flowers to the friendless stranger, who, stricken down by sickness and privation, passes many a tedious day and weary night, in pain and despair, on his solitary cot; to let the lovely messengers from garden and field shed a ray of light and fragrance in the dingy cell, dispel its gloom, and tell in their own language how much beauty, love, and goodness there is in the world; and that, when his sufferings are ended by the endless sleep, his last glances may rest upon bright, living flowers, bringing back to his memory the happy days of former years; that the tender touch of the noble woman's hand, who, in charity and love, comes to ease and cheer his last moments, making them pass away, perhaps, in the dream of that most unselfish, most gentle, and most sacred love of which even he has once been the recipient,—love which never dies—the love of a mother,—this is the aim of the Flower Mission.

That with the cultivation and care of flowers we should also cultivate and improve our own character and disposition; that they should teach us and that we should study the wonders and greatness of nature; that they should beautify our earth, our grounds, our rooms, our homes, and that their splendor and sweetness should become reflected upon our own minds and hearts, is the Mission of Flowers.

KIND WORDS.

THE AMERICAN GARDEN is certainly a treasure.—*P. L., Waverly, Ills.*

Your paper deserves to be in every home in America.—*W. A. C., Charleston, S. C.*

What I have learned from your paper was worth ten times its value to me.—*C. G. D., Taunton, Mass.*

I value your little paper very much for its practical notes on gardening.—*C. H. F., Oconomewoc, Wis.*

THE AMERICAN GARDEN is just the paper people need—practical and trustworthy.—*P. B. M., Mamaroneck, N. Y.*

THE AMERICAN GARDEN is excellent. It seems to be your aim to make each number a criterion of the last.—*Prof. W. R. L., Cornell University, N. Y.*

The only fault I have to find with your paper is that there is not enough of it, and that it does not come oftener. Raise the price to $1, and send it every month.—*H. C. F., Elmira, N. Y.*

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The Vegetable Garden.

SEASONABLE HINTS.

The care of the growing crops, and planting and sowing of ground which has become vacant by the removal of early Peas, Potatoes, etc., constitute the principal work in the Vegetable Garden during the midsummer months.

All vacant spots should be filled with some quick-growing vegetables, and most kinds grow and mature much more rapidly now than those sown in early spring. Turnips, Beets, Beans, Cucumbers, Lettuce, Peas, Corn, Carrots may be sown during July; almost anything is better than weeds going to seed.

Celery.—The planting of this peerless winter vegetable is one of the most important operations of this season. With few other crops has occurred such an entire revolution in the modes of culture as in that of Celery. The amount of labor and expense formerly considered indispensable in its culture was hardly less formidable than that of underdraining a swamp. Now no more work and outlay are deemed necessary than in raising any other vegetable.

It is not essential to apply an unlimited quantity of manure and to have the soil teeming with richness. Soil that will grow good early Beets, Onions, or Cabbages will, when properly prepared, produce full-sized stalks of the best varieties.

Celery is preëminently adapted for a second crop. Ground which has been heavily dressed with stable manure in spring, and planted with early vegetables, is, after their removal, in the very best condition for the production of a good crop. Thorough plowing or spading and fine mellowing of the soil is, of course, all-important.

The old method of digging deep trenches to plant Celery in is now entirely out of use with progressive gardeners, and unless the soil is very rich, and deeper than in most gardens, it is detrimental rather than beneficial, and retards the growth of the plants.

The time of planting may be extended through the entire month of July, and up to the middle of August, even; if a damp, cloudy day can be chosen for the work, so much the better. The rows should be marked out with a line, not closer together than three feet, and the plants set out six inches apart. Before transplanting, one-half of the tops and about one-third of the roots of the plants should be trimmed off with a sharp knife. They are then planted, by means of a common dibble, not deeper than they stood in the seed-bed.

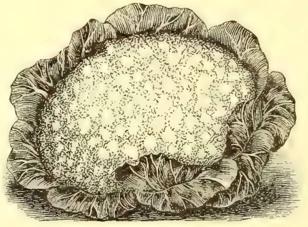
The hilling or bleaching should not be commenced until the stalks have grown about twelve inches high, previous to which the ground has to be kept loose and free from weeds. In banking up, all the leaves and stalks should be held firmly together, so as to prevent the soil from entering between them, and covering the heart of the plant; it is also important to bear in mind that Celery should never be earthed up when its leaves are wet from rain or dew.

Cucumbers, for pickling, should not be planted before the latter part of June, and the season may be extended during the beginning and middle of July. Late-grown pickles are firmer and more uniform than early ones.

CAULIFLOWERS.

Among the unsolved problems which still puzzle the minds of the intelligent American market-gardeners, stands prominently the one how to succeed every year in raising maximum crops of well-developed Cauliflowers. The practical and trained gardener gives himself no trouble of mind about growing paying crops of early Cabbages, Lettuce, Beets, or Onions with the present well-established practices now in common use. But with Cauliflowers the matter is different. They are capricious, becoming very responsive to good treatment one year, while the next year the crop, grown with the same care, results in failure. Very often, not more than fifty per cent. of the number planted will make large, compact heads. This uncertainty is not in consequence of any neglect or oversight in preparing the ground, nor in the methods of cultivation, for I have known dozens of instances of failure where the ground was rich and the culture thorough, from planting-time to the close of the growing season. This serious and expensive obstacle has been partially overcome, of late years, by the introduction of some newer varieties, which are surer to head than the older kinds under the same treatment.

In growing Cabbages, one may get a fair crop with light manuring and indifferent cultivation. But it is a waste of time and money to risk this plan with Cauliflowers, no matter whether the old or newer varieties are planted. To start right, the soil *must be deep, mellow, and rich.* This will be the first step toward insuring success in raising a crop of full-sized Cauliflowers.



EARLY ERFURT CAULIFLOWER.

For the fall crop, the seed is sown, in the latitude of New York, from the first to the fifteenth of May, in a seed-bed in the open ground. The rows are usually a foot apart, and the seed sown thickly and covered lightly. When the young plants come through the surface they are very frequently attacked by the "black fly," and, unless these are checked, they will destroy every plant. My plan is, and has been for years, to soak some tobacco stems in water, and add to this some soft-soap and urine. With this mixture, diluted with water, the plants are syringed early in the morning, and then dusted with air-slacked lime. One or two applications of this mixture, in the way described, never fail to save the plants. It is simple, and not expensive.

In former years, the varieties which were generally grown included the Half-Early Paris, Early Paris, Early London, and Walcheren. Of late years, the Erfurt Early Dwarf, Early Snowball, and the Algiers have taken the place of those named first, and, on my own farm, and wherever I have seen them growing, I have become thoroughly satisfied that they are more reliable for a crop. While they attain an equal size, they are fully up to the standard in quality. In a lot of 3000 plants of the Algiers planted on my farm last year, over eighty-five per cent. grew to full size and made large, firm, compact heads, many of them measuring eighteen inches in diameter.

As mentioned before, to grow Cauliflowers to full size, the soil must be rich and mellow. We usually plant them on ground after early Potatoes. The ground receives a liberal dressing of manure in the spring, at the time of planting the Potatoes. The Potatoes are dug and marketed early in July, after which the ground is again manured, plowed, and harrowed. The plants are then set out in rows two and a half feet apart, and two feet apart in the rows. They are planted with the ordinary dibble, in precisely the same way that Cabbage plants are set. From this time on, the surface of the ground is kept loose and free from weeds and grass—in the open field by horse-tools, and in the garden with the common hand-hoe.

The time of planting Cauliflowers for fall and early winter use, in the Middle and Northern States, may be extended from the end of June to the latter part of July, and even up to the first of August. As a matter of course, common sense would dictate that the plants should be set out when the weather is cloudy and moist, and the soil damp. Cauliflower plants are not so hardy as Cabbage plants, and will need a trifle more care when set out in the garden or open field. Once started, they will grow rank and thrifty. When grown solely for home consumption, it is the best plan to set part of the plants on or before the first of July, and the balance a couple or three weeks later.

In the latter part of September, when the heads are forming, they need some protection from the hot sun. If left exposed, many of them will "button," as gardeners term it. A simple, effective, and cheap method of avoiding this is to go through the growing Cauliflowers, and, when there is a head forming, turn a few of the long outside leaves over the center or head. By doing this they will grow compact, and become more sightly and valuable, either for home use or market purposes.

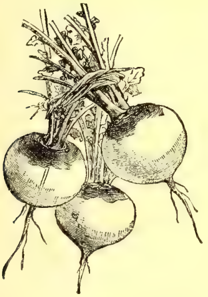
The American Wonder Pea.—If there are still any readers of THE AMERICAN GARDEN who are doubting the wonderful productiveness of this remarkable variety, the following, from a letter of a correspondent from Santa Clara, California, may cause them to modify their opinion:

"Having seen it stated that the American Wonder Pea had yielded as much as fifteen pods to one vine, I looked at my Peas, and selected a few single standing vines. I counted the pods, including all that had dropped the blossoms, filled and partly filled, and counted on the first vine examined twenty-seven pods; on the second twenty-five; on the third twenty-nine; and on the fourth thirty-five pods. Two days afterward, I was in the patch again, and counted on one vine forty-one pods that were filled and hardening, partly filled, or that had just dropped the blossoms. The peculiarity of this Pea seems to be that it sends out a branch at every joint or leaf-stalk, and on these the fruit is borne."

TURNIPS.

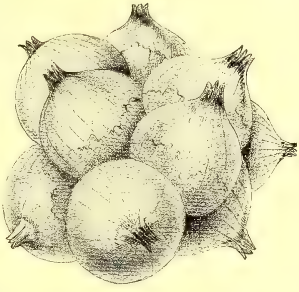
The season for the growth of Turnips is so short that they fit into a garden nicely as a second crop, so that there need be scarcely any vacant spots during the latter part of summer. After the early Potatoes and Peas have been removed, some of the varieties of the Swedish Turnips (another name for improved old-fashioned Ruta Bagas) may be planted as late as the middle of July. They will have ample time, if well hoed, to grow to a good table size. Overgrown Turnips are not desirable for the table, as they are coarse and pithy. Early planted ones are objectionable for the same reasons. There are white and yellow varieties of Swedes, nearly all globe-shaped, the Improved American, Laing's Improved, and Long White French being among the best. All Turnips of the Ruta Baga class should be planted in drills, with the plants from ten to fifteen inches apart and the rows from eighteen to twenty-four.

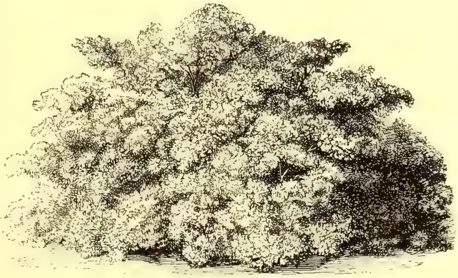
The Flat Turnips, of which Red-Top Strap-Leaf and Purple Top are the best known, as well as the yellow-fleshed varieties represented by Yellow Aberdeen and Yellow Stone, may be sown until August. The seed may be sown broadcast, but not too thick, or they will not bottom. Wood-ashes are excellent manure for Turnips, and a sprinkling of plaster (ground gypsum) on the young plants will always give them a fine start. In dry weather, an occasional sprinkling with house slops stimulates their growth. A very small plot of ground may be made to yield a large crop of Turnips, which may be useful on the table, and are more nutritious than is generally supposed. When Potatoes are high, the globe varieties of Turnips, in a measure, take their place, and furnish requisite vegetable food. In dry weather, the seed should be covered at least half an inch deep; when the ground is moist, the seed can be covered sufficiently with a garden rake.


PURPLE-TOP WHITE GLOBE TURNIP.

POTATO ONIONS, OR "MULTIPLIERS."

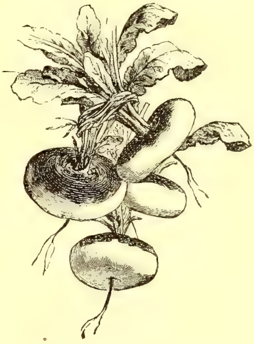
I notice that the editor of THE AMERICAN GARDEN is quoted in the "Tribune" as saying that the fault of this variety of Onion is that they are not good keepers. I believe that there is more than one "variety" of the Multiplier, or Potato Onion. In fact, I know there is. For many years I tried without success to find an Onion of this class that would give an increase of large, handsome Onions sufficiently great to yield a profit equal to the best black seed kinds. Seven years ago I found such a variety, and have grown it extensively ever since. This variety, properly handled, is by far the best keeping Onion that is grown. They are ripe for harvest in this latitude (forty-five degrees N.) July 15th. When gathered carefully, dried under cover, bunched upon wisps of straw in peck bunches, and hung in a cool, dry cellar, they will certainly keep a year, and, I believe, much longer. In fact, when so managed, they never sprout until put in the ground, or otherwise subjected to moisture. As to rotting, if well ripened, well cured, and not kept in a warm place, rotting never occurs except as a consequence of bruising. But Onions bruise easily. To insure such perfect keeping as I speak of, every Onion must be handled like an egg. The work must be intrusted only to reliable help. The Onions must not be thrown about in pulling, or dumped from baskets, barrows, or carts in housing. An Onion dropped two feet upon a hard floor is spoiled for keeping over winter. If these precautions are observed, the largest stock, bunched and hung to the cellar beams as above mentioned, will winter perfectly. My losses will not average two per cent. from all causes. The small Onions keep equally well spread upon well-ventilated shelves, not over three inches deep, in the sand-cellar. In color they resemble the Danvers, but are a shade darker. In size they equal or exceed that variety, but are flatter than the best type. In quality they are excellent. Well cultivated, the yield is about twelve-fold. There is no waste, every bulb being perfect for seed or market. I need not say that I esteem this variety highly.


CLUMP OF POTATO ONIONS.


MOSS CURLED PARSLEY.

LETTUCE MILDEW.

The market-gardeners in several localities have suffered more or less from the attacks of this fungus pest, which, in its methods of working and microscopic structure, is very much like the grape mildew, a description of which is given on another page of this number. Its damaging effect, especially on early forced Lettuce, has been so serious that, in some cases, the growth of Lettuce has been abandoned because of its destructive prevalence. At present it is not much known outside of the market-gardens in the neighborhood of large cities, where Lettuce has been grown upon the same ground for a number of years. There is but little to suggest in the way of remedies. There is an objection to using Flowers of Sulphur, as the foliage is the portion to be dusted and also that which is eaten. Lime sprinkled upon the affected plants has proved of considerable value in some cases. If a soil upon which Lettuce has been grown for a time has become foul, so to speak, it had better be planted to some other crop, and the pest eradicated by starvation.


RED-TOP STRAP-LEAVED TURNIP.

PARSLEY.

The usual time for sowing Parsley for market purposes is early spring. The seed is then sown in a deep, rich, loamy soil, and as it is very slow in coming up, a few Radish seeds are generally sown with it, which, sprouting quickly, mark the rows better and facilitate early cultivation. The tops are cut off in June and again in September. During November the roots are dug and heeled in thickly in cold frames for early winter, and in shallow trenches for later use.

In a small way, for family use, Parsley may be sown in shallow boxes, say four to five inches deep, or in flower-pots, as late as August. Where there is a greenhouse, the space under the front staging is the best place for these during winter; otherwise they may be kept in a light cellar or near a kitchen window, where, with an occasional application of liquid manure, the plants will thrive splendidly and afford several cuttings during winter. The "Moss Curled" is the most desirable variety for garnishing.

The Fruit Garden.

SEASONABLE HINTS.

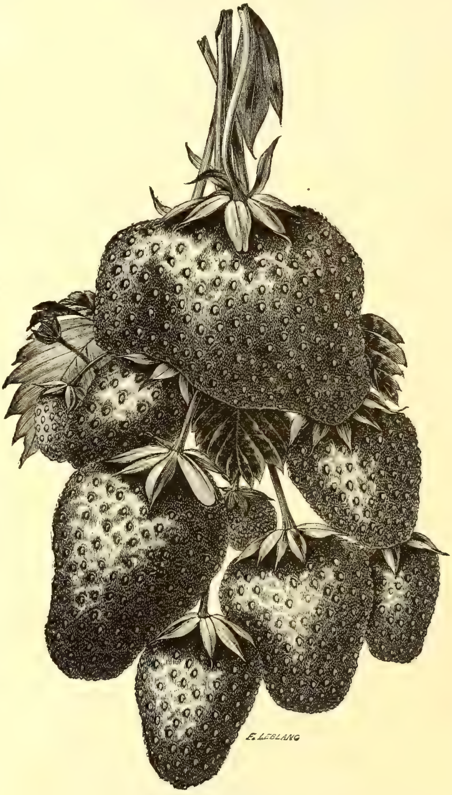
Strawberries. — The season draws to its close, and those who have had an insufficient supply of berries, and have neglected to set out new beds during the spring, will be anxious to learn how to provide a sufficiency for another year. Under the old plan, the ground for a new bed would have to be prepared during summer, and the plants set out in September, producing about one-third of a crop next season; but now, thanks to the *Potting System*, operations may be commenced at once, and nearly a full crop of first-class berries realized in less than a year.

These *Potted Plants*, which are now sold by most plant-growers and dealers, are produced by sinking small flower-pots in the ground, directly under the Strawberry-plants just forming. Thus the young plant strikes root in the soil within the pot, and when, a few weeks later, it is detached from its parent, not only every root and fiber is preserved, but remains in the same position in which it grew—an advantage which is not attainable in the ordinary way of planting.

For shipment, the plants are shaken out of the pots with the entire ball of roots and soil intact, each one wrapped in a piece of paper and packed like other potted plants, in which condition they will stand safely a journey of two weeks or more. On receipt of the plants, they should, if found to be dry, be watered freely before being taken out of the box, to prevent the crumbling off of the soil. The little balls are then dug into the previously thoroughly prepared ground, not deeper than to be barely covered with soil. In dry weather, a thorough soaking with water, after planting, is desirable.

The after treatment does not differ from that of spring-planted Strawberries. The ground has to be kept loose and mellow and free from weeds, and, if berries of the largest size are desired, all runners must be cut off before they become rooted in the soil. A piece of ground from which Early Peas or Potatoes have just been removed offers a most suitable place for a new bed; and even an old Strawberry bed, if no other spot is available, may, after thorough working and manuring, be successfully replanted with potted plants.

Raspberries and *Blackberries* require similar treatment. The suckers, which spring up all around the stools, have to be cut off with a sharp hoe, or scuffle-hoe. Of the new shoots from the main plants, not more than four should be left for next year's bearing; and these, unless tied to stakes or trellises, should be topped when about three and a half to four feet high. This induces the formation of strong upright stems, which will be stout enough to uphold the fruit without support. For immediate propagation, the young suckers may be transplanted during rainy weather.



THE BIDWELL STRAWBERRY.

THE BIDWELL STRAWBERRY.

As "to-morrow never comes," so it seems that the coming Strawberry never comes, but is constantly coming. The air still resounds with the roar of the coming Sharpless, when already the mighty boom of the coming Bidwell is heard in the near distance. Its advance guard showed itself last year on the exhibition tables of the New York Horticultural Society, in the shape of a plate of magnificent berries. We were so favorably impressed with their good qualities that we requested the exhibitor, Rev. E. P. Roe, to give his experience with this variety to our readers. He writes as follows:

"It is my practice to obtain about everything new in the way of small fruits from year to year, and to set them out in trial beds, where their comparative merits can be seen at a glance. Too often their demerits or mediocrity are so clearly and promptly shown that I quietly dig them under, and, as far as I am concerned, relegate them to the obscurity they so richly deserve. Among these candidates, however, here and there one will assert its superiority, and occasionally one will give such promise as to invite the widest trial. About three years ago I received some plants from Mr. T. T. Lyon, of Michigan, under the name of the Bidwell, and they were treated as the others. With Mr. Lyon's assistance I am trying to trace the origin of this variety, but will not give the information in my possession until we can speak more definitely. As far as I can judge from two years' trial, it is a descendant of our hardy native species—the *Fragaria Virginiana*—and will therefore prove to be adapted to a wide range of country. At any rate, it soon took the lead of all my novelties, and during the past year of unparalleled drought I failed to see wherein it was surpassed by any of the standard kinds. Mr. Charles Downing and Mr. Peter B. Mead, who saw it in bearing, were prompt in saying it was more promising than any of my new kinds. Every plant was literally loaded with fruit, which averaged as large as that of the Sharpless, and was brighter colored, better flavored, and firmer.

Of the question of firmness, however, I shall not yet speak unhesitatingly, for all berries are comparatively firm in a dry summer, and I do not believe in indiscriminate praise any more than in sweeping censure. The perfect Strawberry has not yet been discovered, and probably never will be. As is true of nearly all the larger varieties, the first berries are occasionally cockscombed; but the great bulk are very uniform in the shape indicated by the cut, and the entire crop averaged large. A tendency to a green tip, when the rest of the berry was red, was the only fault mentioned by Mr. Lyon—a fault that did not occur during the last hot, dry season on my place, but which, on general principles, is almost inseparable from long, conical berries. I am satisfied of this, however, that the Bidwell will redden thoroughly if left on the vines until ripe. I have never seen the slightest tendency to a hard, tough end, that deforms some kinds. It is not according to nature that a conical berry should color at the tip as soon as near to the calyx, and all fruits deserve time to ripen. On my place the Bidwell is an early berry, following, but a few days later, the Duchess and Wilson, and thus it does not interfere with the larger and later berries, and supplies the need of an early showy market berry. One of its peculiarities is a tendency to make an enormous stool, even in the propagating beds. Under hill culture on rich land it would produce a superb crop of magnificent berries, that would bring the highest price. Is this the coming Strawberry? I don't know. I think it is, and I prove my faith by planting it more largely than any other. Only after it has been grown successfully from Nova Scotia to Florida, and from Maine to California, can we know whether it is the coming berry. I can only say, it is the most promising novelty that I have seen. The fact that the Bidwell endured last summer's unparalleled drought better than any variety on my place, and thrived splendidly on light soils, speaks well for its prospects in the South as well as the North."

[We have lately received most favorable reports from other localities, and the magnificent berries at recent exhibitions seem to justify Mr. Roe's expectations.—Ed.]

RASPBERRIES ON SANDY SOIL.

When Raspberries are to be grown on poor, sandy land, the best mode of preparation is to open during autumn deep furrows with two horses, six to eight feet apart; then to dig and haul enough tide-water muck to fill in the furrows, which will be thoroughly frozen before spring, and at the approach of warm weather will crumble and become mellow, so as to spread evenly; then apply a good coat of ground bone or hair manure along the rows, and set the plants two or three feet apart, requiring about two thousand plants per acre. Bone, hoof, horn, hair, or any refuse animal matter is well adapted to promote the growth of Raspberries.

Muck is a valuable addition to poor, sandy land; it gives a better color and substance to the soil, absorbs and retains warmth and moisture, for which both Raspberry and Blackberry roots show a great partiality by following the muck deposit and making a more vigorous growth there than elsewhere.

Such treatment prepares a good foundation for carrying a Raspberry crop through a spell of dry weather without suffering from drought. Potatoes or other vegetables may be grown between the rows, the widest way, the first summer; after that the Raspberries will require the whole space.

The cultivation is very simple. Stir the ground frequently with horse and cultivator to keep down grass and weeds, being careful the latter part of summer not to disturb by deep culture the small roots feeding near the surface.

PEACH YELLOWS.

This destructive plague is still causing a great amount of damage in many Peach-growing localities. In return for much valuable information received through the columns of THE AMERICAN GARDEN, permit me to say to its readers that I have saved my trees by scraping away the earth a little from around the roots, and forming a dish or hole to hold about four to six quarts, and filling it with boiling-hot soap-suds, once a week, until the grubs or borers are effectually cooked. The day following each application, place the earth back around the roots until the suds are used again. I am inclined to think the disease is caused by poisoning from these borers at the roots, and that the alkali in the suds acts like medicine to the human system. Whatever the theory may be, I know that neither Westchester County nor all New Jersey can show finer Peaches than I have raised the past few years from the pits. I planted nothing but pits from choice fruit. One other suggestion permit me to make: that if the ground is properly prepared, and pits are planted just where the tree is desired to grow, the tree will live twice as long as transplanted and bedded ones. H. K. MILLER.

[It is now well known that the Yellows are caused by a minute fungus growth at the roots, gradually spreading through every part of the trees. Analysis of the fruit and leaves shows a deficiency of ash; and to supply this, soap-suds, lye, or wood-ashes form ready means. The application of hot suds or lye is more efficacious than when used cold, and the boiling liquids do not injure the trees in the least. As a rule, grafted or bedded trees are not so long-lived as natural ones.—ED.]

SOME INJURIOUS FUNGI.

Fungi, the plural of Fungus, is the name given to a class of flowerless plants of which the Mushroom and Toadstools are the most conspicuous and familiar examples. Unlike most ordinary plants, Fungi have no seeds or leaves, or even stems and roots, in the sense that these four terms are used with regard to trees and shrubs. Their structure is of the simplest kind, being entirely cellular—that is, made up of small sacs placed side by side, and end to end, with no such thing as ducts or vessels, bark or wood.

Like all other living things, the Fungi have methods of reproducing their kind. As the formation of seed is the end and aim of flowering plants, so the production of spores is the final act of the Fungus. Seeds and spores are alike in function but widely different in structure. The seed contains a little plant (embryo), while a spore has no such structure within its cell-wall or coat.

The Fungi that most interest the orchardist and gardener are microscopic, and, though very minute, frequently do serious damage. Let us glance first at the

AMERICAN GRAPE MILDEW.

This Fungus is best observed on the leaves of the Grape, where it makes patches of yellowish brown on the upper side, while a white frost is on the corresponding under side. The smooth-leaved varieties show the mildew best, as it is not obscured by the growth of hairs. Further than a white, powdery appearance it is not to be determined without the use of the compound microscope. With it the powder resolves itself into small bodies, oval in shape, which are spores, and have been produced in large numbers upon minute branches of the Fungus. The threads or filaments of the mildew run in all directions in the tissue of the Grape leaf, and fruit also, and rob it of nourishment out of which to form the spores. The mildew makes its appearance at any date, from June to September, the time depending much upon the character of the weather, a warm, moist spell being most favorable for its development.

Flowers of Sulphur, sprayed upon the leaves from below by means of a bellows early in the season, as soon as signs of the Fungus are seen, is *the* remedy for Grape mildew. Anything that weakens the Grapevine, as early and over bearing, will tend to the development of mildew. The strong, thick-leaved varieties, like the Concord, are less affected than thin-leaved and tender ones.

THE PEACH CURL

Is a prevalent and injurious deformity that has been ascribed to plant-lice, but is caused by a minute Fungus. This parasite makes its appearance as soon as the Peach-leaves begin to unfold, and causes them to twist and roll until their natural shape is almost entirely lost. The Fungus grows within the tissue of the leaf, the affected portions soon becoming spongy and frequently of a bright red color. The young stems are sometimes distorted. All the affected parts soon turn brown, wither, and die. The remedy is to remove the diseased parts with a knife and burn them, to prevent the spread of the "Curl Fungus." If thrown down, the spores may ripen, and the work will have been largely in vain.

SEEDING ORCHARDS.

As to the treatment of Apple orchards, we know that when they are established on light gravelly or sandy soils they require periodical applications of manure, that the ground should also be kept loose by shallow plowing, and afterward to be surface-stirred with the harrow or cultivator—all of which is requisite to maintain a proper degree of fertility.

We have learned that to sow grass on the surface of the orchard planted in such soils is simply the first step toward the destruction of the trees, so far as regards their fruit-bearing capacities. Of course, we are now considering ordinary condition and management, for it is quite practical, merely considering it as a question of possibility, to so enrich the surface of even the lightest of soils as to obviate necessity of further surface culture.

On the other hand, we may imagine the case of an orchard placed in a condition of things very much the reverse of the one we have considered. In this the soil is a strong, rich loam, perhaps with a preponderance of clay in its composition, and the trees are growing vigorously, and for some years have been making a great quantity of wood and but very little fruit.

When a case of this kind occurs, we know that in order to produce fruitfulness we must, by some means, weaken the growth, and the most available means is to cover the orchards with grass. This will have a tendency to check the growth of the shoots, and as a consequence favor the production of fruit. This is in accordance with the general law that "whatever tends to weaken a plant favors the production of flowers and fruit, and whatever tends to the luxuriant growth of leaves and branches is unfavorable to the production of fruit."

Therefore it is that the question as to whether orchards should be kept in grass or cultivated like a corn-field cannot be answered with regard to orchards in general; but when the question is applied to any particular orchard it admits of a definite answer, the condition of the trees (and soil) indicating what the answer will be.—*William Saunders, before the Potomac Fruit-Growers.*

PROFITS IN PEACHES.

A prominent fruit-grower of Georgia writes thus: "I have just received the returns from three one-third-bushel crates of Peaches which I shipped to New York on May 30th. The net proceeds for the three crates, after deducting freight and commission, amounted to *thirty-two dollars*. This is, perhaps, the highest price ever realized by any Georgia fruit-grower for the first shipment, and highly satisfactory." Which we do not doubt in the least. The wonder only is that every planter in the South does not embark in Peach-growing when a bushel of fruit gives him as large a profit as an acre of cotton.

Raising New Strawberries.—A man has about as much chance to raise a new Strawberry, superior to every old variety, as he has to draw the great prize in the Havana lottery.

A good mulch is a better preventive against drought than watering.

The Flower Garden.

THE USE OF FLOWERS.

God might have made the earth bring forth
Enough for great and small,
The oak-tree and the cedar-tree,
Without a flower at all.

We might have had enough,—enough
For every want of ours,
For luxury, medicine, and toil,—
And yet have had no flowers.

The ore within the mountain mine
Requireth none to grow,
Nor does it need the Lotus flower
To make the river flow.

The clouds might give abundant rain,
The nightly dews might fall,
And the herb that keepeth life in man
Might yet have drunk them all.

Then wherefore, wherefore were they made
And dyed with rainbow light,
All fashioned with supremest grace,
Upspringing day and night?

Springing in valleys green and low,
And on the mountains high,
And in the silent wilderness,
Where no man passeth by?

Our outward life requires them not,
Then wherefore had they birth!
To minister delight to man—
To beautify the earth.

To comfort man, to whisper hope
Whene'er his faith is dim,
For whoso careth for the flowers
Will much more care for Him.

—*Mary Howitt.*

THE TUBEROSE.

(Polianthes tuberosa.)

The original, single variety is a native of India, and has for many years been grown in large quantities in Southern France, where the flowers are used for manufacturing perfumery.

The double variety, which is now almost exclusively used for garden purposes, is very much superior to the single one in the size and appearance of the flowers. Owing to the easy manner in which they can be cultivated, they are found in almost every garden, while their rich perfume and clear white color have made them very desirable for all sorts of floral designs.

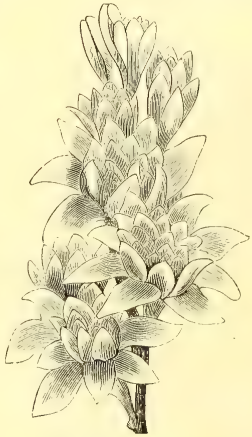
To make the flowering of Tuberoses a success, it is indispensable to procure sound bulbs, of good size. If the center of the bulb, or "flower-germ," is not perfectly sound, it is hopeless to expect flowers; and any bulb, be it ever so large, that has flowered once, will not bloom again.

It is a common mistake among amateurs to select the largest bulbs, when buying. Frequently, the flower-germ in large bulbs has been so far advanced as to get killed or injured by the drying process which the bulbs have to undergo to keep them sound over winter. A medium-sized, well-formed bulb, with a hard, sharp-pointed neck, is the kind to be recommended, as these can, with proper treatment, be depended upon to flower successfully. There is no way of telling, in the dry bulb, the difference between the single and double variety; the buyer is depending solely on the honesty of the dealer. I think it well, however, to remark here that it is not always the fault of the dealer if what is sold as the double comes single. The double variety is only a sport of the single one, originally produced by garden cultivation, and it is not a very uncommon occurrence to see them running back again, especially if the bulbs are grown in the same ground for a number of years.

Before planting the bulbs, all the little bulblets, or "sets," which are always attached to the main bulb, should be removed, as well as the sprouts or eyes that may be showing on the sides of the bulb. By this operation, all the strength and nourishment that are contained in the bulb will be preserved for the development of the flowers.

The proper time for planting, in this vicinity, is the latter part of May or beginning of June. It is of no advantage to plant Tuberoses before the soil is thoroughly warm. The bulbs should be placed at least three inches under the surface of the soil, and will do best in rich, warm, sandy ground, exposed to the full sun.

If wanted for early flowering, the bulbs may be planted about the first of March, in small pots, with clear sand or sandy soil, placed in a hot-bed, and replanted in larger pots, with rich soil, as soon as started. They must not be planted out, or left uncovered, before the end of May.



THE PEARL TUBEROSE.
(One-half the average size.)

The "Pearl" Tuberose, a variety of later introduction, and, in general respects, similar to the old double, bears somewhat larger flowers, on considerably shorter and stronger stalks. Although the flowers of this variety do not keep as long as those of the old kind—a consideration of some importance to the professional florist—its dwarf habit makes it most valuable for greenhouse cultivation.

HARDY AZALEAS.

Probably no readers of THE AMERICAN GARDEN have ever visited an Azalea house when its inmates were in flower without being lost in wonder and admiration at the variety, intensity, and delicacy of coloring there displayed, or wishing to be able to transfer some of these floral beauties to their open grounds.

Azalea indica alba has been for a long time one of the leading and most popular white varieties, and till within a few years its culture has been confined to the greenhouse and conservatory, under the impression that it was not hardy.

A few years ago, some one discovered accidentally that it was not so tender as was supposed; and, seeing the statement, I ventured to procure a plant and set it in front of my house, south of the steps leading to the piazza, thus protecting it from the rude blasts of the north and west winds. This was, perhaps, half a dozen years ago. The experiment has proved a success from the start, and year after year (from the middle to the last of May) the pleasure and satisfaction deepen and increase. Last season the spring blossoms were, from some cause, not very profuse, and it took on the novel freak (perhaps by way of atonement) of blooming sparingly, at intervals, all through the summer and fall till frost came, so that I had about concluded to forego any flowers this spring; but to my agreeable surprise it has produced a greater profusion of blossoms than ever. It has attracted a great deal of attention from visitors and passers-by, and many people, even florists, have been surprised to learn that it has had no more protection than the house affords. Thus emboldened, I next ventured to set a number farther away to the south-east of the house, but where the west and north winds sweep around it fearfully. This, also, was a success, and last spring I made another venture by setting one hundred plants in nursery rows, fully exposed. The extraordinary drought and intense heat of last summer proved too much for some of them, and may have impaired the vitality of others so as to affect their hardiness; at all events, I find some more or less injured this spring, while others do not seem hurt in the least, and are showing a few flowers. A plant that has successfully passed through two such extremes as the past year has presented may, I think, justly lay claim to hardiness in this latitude. Still I would recommend, to insure safety, to plant them on the lee side of buildings or shrubbery. A little protection of this kind will do no harm, even if not necessary.

In planting groups of shrubbery, this and other Azaleas might appropriately form the border, on account of their slow growth and dwarf habit. Possibly there may be other varieties of this class that would prove hardy on trial, but if not, we have them in the class known as Ghent Azaleas. As a companion to the above white, I purchased at the same time a *Gloria Mundi*, a variety of the Ghent family, and planted it on the opposite side of the steps. This also has become established, and proved every way satisfactory. Its flowers are deep orange, quite as handsome in their way as the other, blooming a week or ten days later. Since commencing to bloom it has not failed to put on its royal robes annually save once, and this failure was due to the "cussed" sparrows eating out all the flower-buds. Of course, if I ever had any love for the little pugnacious chatterboxes, I lost it then, and it has never returned.

There are no doubt other Ghent Azaleas quite as desirable as the one named above, but my experience has been limited to this variety only.

In most soils, Azaleas thrive well without further preparation than deep working; in others, however, an addition of leaf-mold becomes necessary to make them succeed and grow thriftily.

CHRYSANTHEMUMS.

These are frequently almost forgotten until some morning in October, when we find most of our summer pets destroyed or disfigured by the first slight frost. Then, as in war, we await the result and count up our losses, and find amongst the scathless none to come out so bravely as the Chrysanthemums. A frost of six or eight degrees does not harm them in the least, and in sheltered positions even as much as ten or twelve degrees does no material damage to the opening blossoms.

There is a remarkably wide range of color and shape of flower, stature of plant and size of bloom among the varieties now cultivated.

Pompones, or Lilliputians, are varieties with very small flowers, from the size of a cent to that of a twenty-five-cent piece, mostly flowering from the first of October to the middle of November.

Intermediates average the size of a half-dollar, or a trifle larger. To this section belong what are known as Anemone flowered or quilled Pompones. Some of these are early-flowering, but the majority do not bloom fully until after the first week in November.

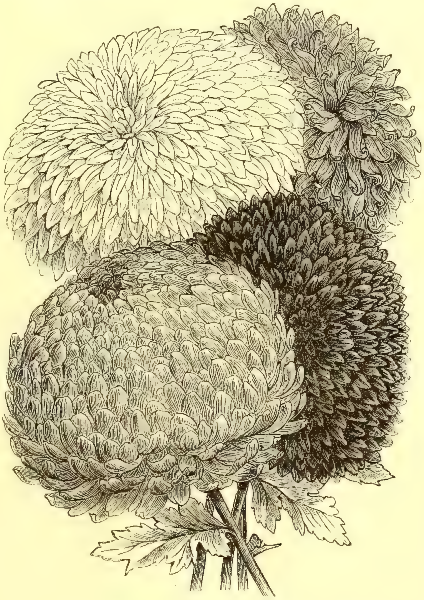
Large-flowering. — These are the most symmetrical and compact in form. Some have petals so completely turned to the center as to form nearly a circle, and are known as *incurved* varieties, in size from two and a half to four and a half inches in diameter; others, with petals flat and bending outwardly over each other, as in the Victoria Aster, are known as *reflexed.* These are large, also, but are exceeded in size by the *Anemone flowered*, a class with flowers of from three to five inches in diameter.

Japanese.—In these we have the most grotesque shapes and forms imaginable. Some have quite globe-shaped flowers, with the petals finely divided or cut so as to form a ball of fringe; others have long, wavy petals hanging in the most careless and graceful manner; another section has peculiarly twisted, curled, and variously marked flowers, arranged in many different forms, making them appear artificial rather than natural.

Between their various colors there is a very wide range, from the purest white to the very deepest velvet maroon, through all shades of orange, brown, yellow, pink, bronze, various purples and crimsons, with combinations of two or more colors in many varieties.

The cultivation of the Chrysanthemum is of the easiest and most simple description, and no plant is more grateful for a little attention. Procure young plants to begin with, in a dozen or more varieties—a few from each section. This should have been done a few weeks ago, but it is even now not too late. Plant them in good soil, with a fair proportion of rotten manure spaded in to a good depth, and place them so that they are not too crowded, say from two and a half to three feet apart, either in the mixed border or bed by themselves. A north-easterly or south-easterly position, where they can have a slight shade for a few hours during the afternoon of our very hot summer days, is the best. Never allow them to wilt, if possible. A soaking of water once or twice a week will be sufficient to prevent this.

As the plants grow, place a good strong stick to each, and tie securely but not too tightly. When the plants are six or seven inches high, pinch out the top; this will induce lateral growth and bushy plants. Continue pinching the shoots until the middle of July, after which time they should be allowed to grow undisturbed. To produce large plants, add more stakes and tie each shoot horizontally. This induces a bushy and compact growth, and if the plants are encouraged with frequent doses of liquid manure, each one will grow to from one and a half to two feet in diameter by the first of October. After the buds are of a good size, the plants may be easily lifted and potted into good-sized pots, for removal either to the greenhouse or windows. A week before they are to be taken up, cut with a good sharp spade, garden trowel, or knife, clean around the plant a circle an inch or two larger than the pots to be used, dig away the soil outside the circle to the depth of two or three inches, and give a thorough soaking of water; if the plants show signs of wilting, sprinkle the whole plant over a few times. Young roots will then form inside the ball. When the plants are lifted, rub off a little more of the soil, or, what is better, wash it off, place carefully in the pots, soak thoroughly with water, stand in a shady place for a few days, and then, as the nights get colder, remove to a sheltered place where plenty of air and an occasional sprinkling of the whole plant can be given, until the flowers begin to expand, when no more sprinkling is necessary; but never allow the plant to be dry until through flowering.



ANEMONE FLOWERED CHRYSANTHEMUMS.

Many of the varieties are perfectly hardy, but all do better with a slight protection, which may consist of a few evergreen branches, a slight covering of old hay, straw, leaves, or any litter, or they may be removed and laid under the shelter of any fence or under evergreens.

To obtain the best results in Chrysanthemum culture, new pieces—suckers from the old stems—should be planted in April, and not more than two or three shoots in each place. [For the accompanying illustration we are indebted to *Gardening Illustrated.*]

LARKSPURS.

It may seem rather late to write about sowing seeds of annual plants just now; and so it is to obtain any advantage of them the present year. That is not my object, but to impress upon the amateur the advantage to be obtained next year by attending this year to work too often deferred until spring.

Among the more ornamental and desirable plants that adorn the flower-garden in the early summer, none are more so than Rocket and Branching Larkspurs. They are classed as hardy annuals, and are frequently, as well as others in the same class, sown in the spring. Treated in this way they are commonly failures, as the hot summer sun forces them into premature flowering before they have perfected their growth and gained sufficient strength, and they consequently display but a meager appearance compared to what they would if properly treated.

Looking forward to having them as they should be another season, it is well to bear in mind to sow seed at the proper time this year, to obtain that result; and that is from the first to the middle of September, or even later. There is no mystery about sowing, and the directions for doing so are usually found printed on the packages received from the seedsman. The seed germinates readily, and should be sown where the plants are to remain. To have a sufficiency of plants for the allotted space, sow rather thickly, and when the plants have attained to a few leaves, thin out by destroying the weaker ones and where they crowd each other, leaving the remainder about four inches apart. If in an exposed situation, a slight protection of leaves or straw may be given them when severe weather sets in. It is hardly necessary to add that the soil should be enriched and well pulverized before sowing, as that might be said to be an invariable condition for the successful culture of any plant. The same mode of treatment may be applied with equal advantage to China and Japan Pinks, Godetias, Erysimum, and in fact to the whole list of hardy annuals.

PANSIES.

To insure success, the soil for Pansies must be light, finely sifted, well-drained, and moderately moist; the seed scattered evenly and dusted over with not more than one-eighth of an inch of soil at the utmost; then pressed down gently with a board. The pots or beds have to be kept completely shaded, and watered with a very fine sprinkler, enough only to keep the soil from becoming dry. The seeds germinate in from eight to twelve days, after which the shading should be gradually removed.

Lawn and Landscape.

MANAGEMENT OF LAWNS.

It is too late in the season to make a lawn this year, but all not in possession of this source of pleasure should resolve to have one the coming spring. A beautiful stretch of well-kept velvety green turf—and this is what is understood as a lawn—can be secured by having the soil deep, rich, and mellow before seeding, and then caring for it ever afterward. The plant-food should be in the form of well-rotted and finely divided barn-yard manure, or some more concentrated fertilizer, as bone-dust, guano, ashes, etc. These latter can be applied in small doses at any time through the year, but it is best just before a rain, that the water may carry the fertilizer directly to the roots of the grass, thus giving quick returns. After the lawn is established, next to the feeding comes the cutting of it. A lawn, to look at its best, should be cut at least once a week, and, in the more rapid-growing portion of the season, twice as frequently is not too often. The clippings from the mower may be left where they fall, to serve a good turn in protecting the closely cut turf from the hot sun, that might otherwise dry out the roots and do them injury. Some persons, with good taste generally, keep the open spaces in the lawn closely cut, but neglect the corners and portions around trees and shrubs. This is slovenly, and the appearance is even worse than to leave the grass to grow equally upon the whole lawn. The sickle should be freely used wherever the lawn-mower cannot go.

Much of the beauty of the lawn depends upon the neat keeping of the walks and drives. They should be kept free from all weeds, and this can be best done by an occasional raking; but, if necessary, use the hoe. The center of the walk should be a little higher than the sides, to insure drainage, and also for look's sake. The borders will need trimming from time to time. This may seem trivial, but upon these little things the appearance of "finish," and the trimmed neatness and beauty of the lawn, depends.

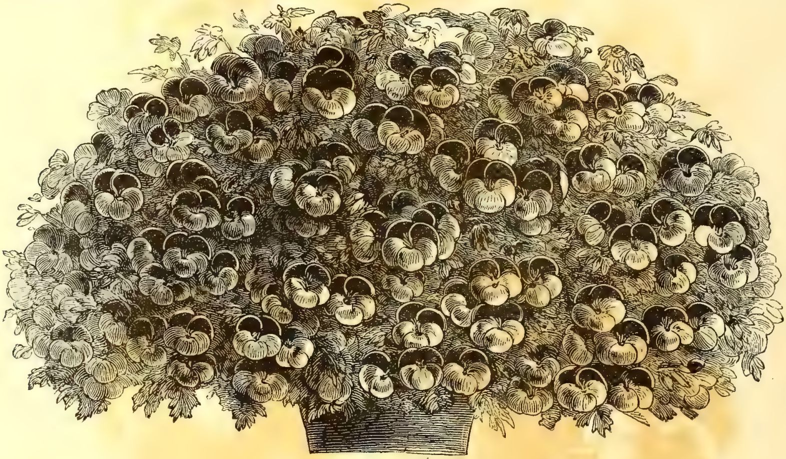
The Window Garden

AND GREENHOUSE.

PELARGONIUM GRANDIFLORUM.

This is commonly known as Lady Washington Geranium, and has innumerable varieties, embracing many colors with various and distinct markings. Some have spots on all the petals, others only on the two upper ones; again some have fringed and wavy margins, and yet others produce flowers as round and smooth as the most perfect Pansy.

Their general management requires care and more attention than the ordinary Geraniums to insure success. Our illustration, for which we are indebted to *Gardening Illustrated*, shows what can be done with proper management. The specimen represented is a plant three years old, about three feet six inches in diameter, and grown in a pot ten inches in diameter.



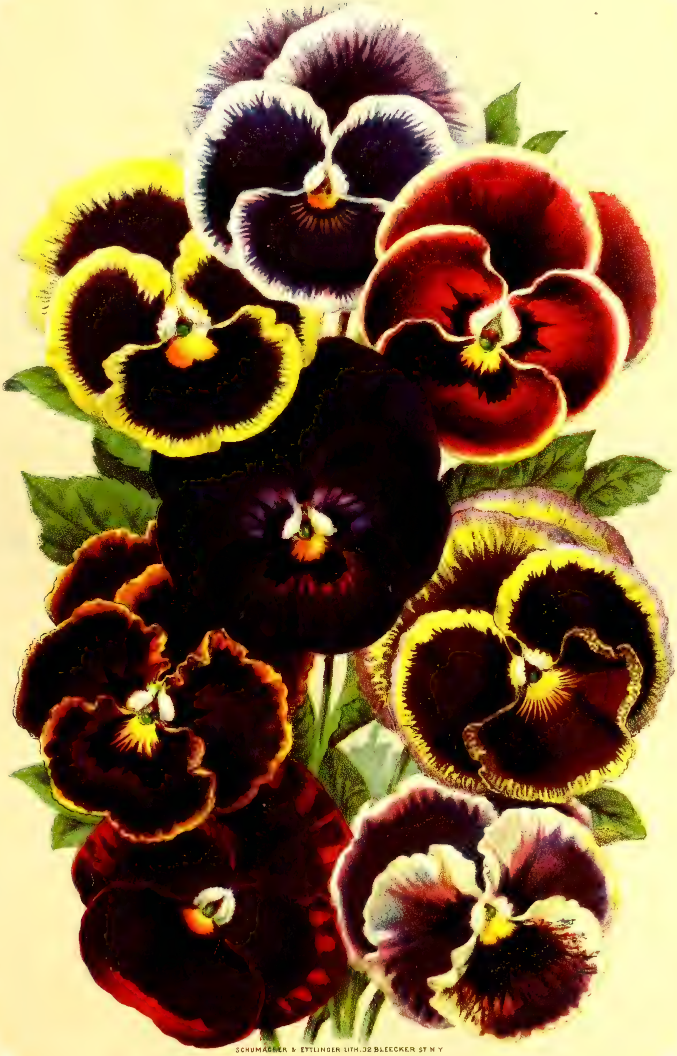
PELARGONIUM GRANDIFLORUM.

To produce the best results, propagation should commence as early in summer as moderately ripened cuttings can be obtained, so that by the first of October we may start with strong young plants, well rooted in two and a half or three inch pots. They should now be repotted into four or five inch pots, well drained with broken pots a third of the depth, using such soil as has been advised in THE AMERICAN GARDEN for other Geraniums, with an additional sprinkling of coarse sand; water thoroughly and place in the sunniest position, and as near the glass as possible; give one thorough soaking with water, and do not water again until the soil is beginning to get quite dry, as from November until the first of February too much water is certain destruction. About two weeks after the first repotting, the center growth should be pinched entirely out (this is known as "stopping"), which will induce young growth to form at the axil of every leaf. After these young shoots grow to the length of two or three inches, small stakes should be placed around the sides of the pot, and the young shoots gradually and carefully drawn horizontally to the stakes. The upper shoots generally grow the strongest, and these should be tied down first, so as to give the lower ones a chance to get on even terms. This brings us to about the middle of December. If it is desirable to grow as large plants as possible, another repotting into pots two sizes larger will be necessary, but if plants are wanted for ordinary decorative purposes, repotting need not be done before the first of February. The shoots should be stopped a few days previous to repotting, and the tying and training attended to from time to time, as necessary. As the days lengthen, and the sun gets stronger, the plants will require more water, and on very bright days syringe occasionally, but avoid keeping the foliage constantly wet. During the dullest weather maintain a temperature of fifty to fifty-five degrees Fahr. Keep free from aphis or green fly (for no plant suffers more than this from their attacks) by fumigating with tobacco once a week.

By the middle of March they should have their final shift for the season, using the same kind of soil as before, leaving an inch space in each pot to allow for thorough watering. As the pots get filled with roots, give occasional doses of weak guano-water. Be careful not to allow the plants to get dry at this period, or the flowers will be small and crippled.

From the first of May the flowers will begin to open, and the plants should then be shaded from excessive sunshine, removing the shading at night, if possible, and only using it in the brightest weather. After the plants begin to drop their bloom, they should be placed out-of-doors in a sheltered position, with an easterly or westerly aspect, so as to protect them, for a part of the day, from the direct rays of the sun. Turn the pots around once a week, so as to prevent roots from growing into the soil of the bed.

After the first of August give water very sparingly, and by the third week the plants should be cut down to the desired size; generally from one to three inches of each shoot should be left, according to the shape of the plant. If one side of the plant is heavier than the other, leave the shoots the longest on the weak side. Do not give any water



SCHUMACHER & ETTLINGER LITH. 32 BLEECKER ST N Y

for a few days, after which only a little until the young shoots begin to appear, when the plants should be carefully shaken out of the old soil and potted back into five or six inch pots, according to the strength of the roots.

The growth cut off the old plants affords a quantity of wood for cuttings. These cuttings should be placed in either a frame, propagating bench, or even out-of-doors in small pots in a shady place.

The old plants as they commence to grow should be encouraged and repotted each time, as soon as the pots get filled with roots, up to the first of November, when the same treatment should be followed as for the year previous, excepting always that the larger the plant the more training, tying, and stopping will be required.

In our next number we will refer to some of the leading varieties.

HOUSE-PLANTS IN SUMMER.

All plants intended for summer decoration out-of-doors should now be in their places, after which the plants remaining inside should be carefully looked over, and any that may need it should be repotted, cleaned, and, where necessary, neatly staked. Greenhouses should never be empty, as is often the case. Amongst the plants most desirable, and which are always beautiful during the next three months, are the fancy-leaved Caladiums, some of the tender Ferns, Tuberous-rooted Begonias and Gloxinias (an article in The American Garden, in a previous number, fully describes the treatment of the last two plants), a few of the most distinct Crotons, Marantas, and Dracænas should be added, and when winter comes, these can be taken into warm rooms for house decoration. To those who have not before grown plants in the greenhouse during the hottest months, this will be a great pleasure; and on all occasions when any room decoration is required, these plants can be arranged in distinct and showy groups, such as cannot be obtained in the arrangement of cut-flowers. A good plan, and which saves labor in watering, is to place the plants in pots two sizes larger than the pot they are in, and to fill the interstices with moss, covering over the rim of the pot inside, and also the soil.

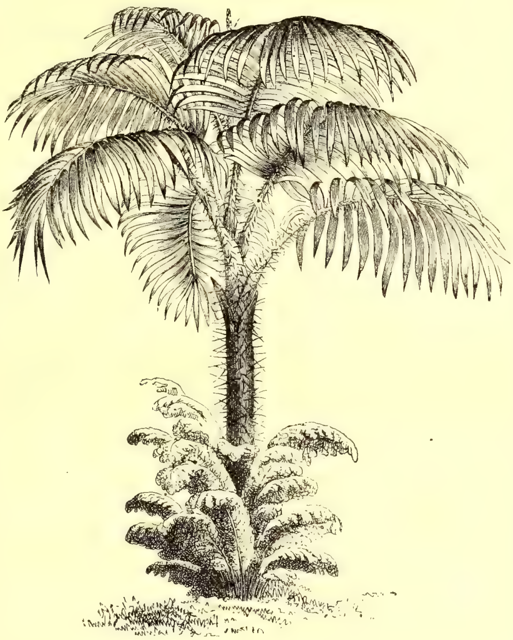
Camellias and Azaleas are better outside, in some shady or half-shady places. Be careful never to allow these plants to become dry, as nearly all cases of Camellia buds drooping and Azalea flowers blighting come from having been dry the previous summer.

Hanging Baskets and Vases require to be thoroughly watered, the stronger plants pinched or tied, dead leaves and fading flowers to be removed; and if one plant is crowding too much, remove altogether, rather than have the whole out of shape.

Foreign Scenery.

PALMS AT HOME.

Palms, so universally distributed over the tropical regions of both hemispheres, are nowhere seen to greater advantage than in the valley of the great river Amazon. Here grow in profusion the most beautiful of the family, for the Palms of the western hemisphere are much more graceful and elegant than those of the eastern. Very seldom are they found in woods by themselves, but usually singly or in groups, interspersed through the forest, though occasionally they compose the chief trees, as on many of the islands of the Amazonian delta, which from a distance seem a mass of the great Miriti Palm *(Mauritia flexuosa)*.



While some species are restricted to certain localities,—as, for example, the Piassaba *(Leopoldina Piassaba)*, which produces the fiber of the same name, and which is found only in a comparatively small region on the river Negro,—others are very generally distributed over a vast extent of territory.

Again, in walking through the woods, one may for miles see only one species; then in a radius of a hundred feet he may find a dozen.

Within a few miles around the little village of Juraty, on the Middle Amazon, we collected and described forty-three species. The impression that generally prevails that Palms are the giants of the tropical forest is erroneous; for compared with many of the trees, they, even the tallest, are mere pigmies. Nevertheless, some are very large trees; we have seen a single leaf-stalk of the "Inaja" *(Maximiliana regia)* which measured forty feet in length, and one can imagine the grand effect of a mass of these immense fronds springing from the top of a massive trunk twenty-five feet high! The great feathery fronds of the "Jupati" *(Raphia taedigera)* often attain a length of fifty feet; but these are the exceptions, and usually the fronds are not very long, nor are the trees very tall compared with other tropical trees, though in height there are also exceptions. Probably one of the first things which strikes the traveler upon the Amazon strangely is the comparative small size of the Palms. Yet, withal, they are very grand, and the more one sees them the more one is impressed and delighted. In our experience, the most beautiful Palm scenery in the whole Amazonian valley is just above the little village of Breves, which is at the westerly end of the great island of Marajo, and about eighteen hours by steamer from Para. The Amazon is here divided by innumerable islands, varying in size from many miles in length and breadth to only a few hundred feet across. All these islands, which are submerged in the annual rise of the river, are a mass of foliage—in fact, are an almost impenetrable jungle. Here one may see the tall India-rubber trees, and many others, the botanical names of which would convey no meaning to the general reader, and which have no common names, all closely knit together by climbing vines and a dense mass of foliage. Allamandas and Bignonias hang in long festoons of yellow and orange flowers, and the air is always redolent with the rich spicy perfume of millions of unseen blossoms. But varied as are the beauties of the woods, Palms are here their conspicuous feature. They are chiefly of three species—the "Miriti" and "Jupati," which we have before mentioned, and the "Assaí" *(Euterpe edulis or oleracea)*. The channels of the river between these islands are often very narrow, but are very deep, so that large steamers pass through them, and standing on the paddle-box of the steamer one can often almost touch the projecting branches of the trees.

These three Palms are probably as distinct in habit as three trees of the same family could possibly be. The "Miriti" is massive and stately. The "Assaí" seems the embodiment of graceful beauty. The "Jupati," with little trunk, sends up immense fronds of silvery foliage, which droop gracefully, like the spray of a fountain. These three Palms are grouped in every imaginable combination; there are millions of them, and every turn of the river opens a new scene of beauty. We have sailed among these islands many times, and once saw them under the light of a full tropical moon. It was a scene of enchantment which words are too weak to describe.

It is not too much to say that to see the Palm islands above Breves is worth a voyage across the Atlantic.

Horticultural Societies.

PROGRESS IN STRAWBERRY CULTURE.

(Conclusion.)

An Address before the New Jersey State Horticultural Society.

BY DR. F. M. HEXAMER.

Of scarcely less importance to the Strawberry-grower is the proper selection and application of fertilizers. How and from what to reap the best returns for the money invested is, and always will be, the leading problem. There are, no doubt, many among those present who know that bone-dust is best; others have used stable manure with success, and want nothing else; and still others may be sure that there is nothing better than a certain special Strawberry fertilizer. All may be right, and showing their good sense by continuing what they found to be good and profitable; nevertheless, should these gentlemen change places with each other, some would probably soon modify their practices somewhat.

Careful observation and extensive experiments have convinced me that the Strawberry plant is not only a glutton, but an epicure at the same time; that it is not satisfied with an abundance of the richest food—it also insists upon having it prepared in the most palatable manner, served in the most dainty style and as often as it feels inclined to partake of it. Of course, you can force and starve it to exist on most anything rather than die; but if you want it to put on its sweetest airs, to be pleasant and have rosy cheeks, and do its best generally, it must, like other pets, be coaxed and petted.

Now, wherever you keep your pets, be it north or south, on sandy plains or on heavy clay hill-sides, there is one decoy to which they respond every time and without fail, and this is a good, well-decayed compost. Whatever the fertilizer to be used consists of, composting increases its strength, enhances its value, and prepares it for the immediate needs of the plants. I do not wish to be understood as underrating the value of stable manures nor of special fertilizers, some of which are among the crowning triumphs of scientific agriculture, but I do assert that practice, as well as theory, have proved that, however effective either alone may be, combined they become often doubly valuable.

It is a great mistake to use commercial fertilizers only to lengthen out the supply of stable manure; much better results may be obtained by composting all the available manure with all the purchased fertilizers,—mixed with sufficient muck or soil to prevent too violent fermentation,—and to distribute the entire bulk over all the land to be cultivated. We all know that in seasons of severe drought ordinary fertilizers rarely produce the desired results, and that too much rain carries a considerable part of fertilizing matter below the reach of roots; composts, however, by reason of the minute division of the active principles contained in them, are immediately available as plant food, and, by being evenly scattered over the surface, benefit all plants alike, and become absorbed in a shorter time than raw fertilizers.

To obtain the best results from composts, it is advisable to divide the quantity to be used during the season into several parts, and to apply them at different intervals instead of using all at one time. We practice a similar method in feeding our animals: we are careful to give them all, and no more, than they will eat up clean at one meal, else a part of the fodder becomes wasted and useless, while with judicious feeding nothing is wasted, and all the provender goes to strengthen the animal. The same principle underlies the system of feeding plants.

I will not take up your time by entering into the details of preparing compost heaps, but I am sure that any one who will give composted fertilizers a fair trial will soon become convinced of their great value in Strawberry culture What ready cash is to the tradesman a good compost heap is to the Strawberry-grower, although even the latter does find a good bank balance in no way inconvenient. As the merchant who has ready cash is better prepared to strike an advantageous bargain when opportunity offers than one who has to wait till money comes in before he can buy, so is the fruit-grower who can rely on his compost heap in some measure independent of weather and seasons; he can count on its good results every time.

I perceive that the material on hand has already outgrown its intended dimensions, and I shall be able to allude only to our progress in some other new methods in Strawberry culture.

Irrigation is attracting much attention now. We can hardly call it new, for the Egyptians have practiced it to perfection more than four thousand years ago, and at the present time extensive systems of irrigation are found in Italy, Spain, India, and many other countries of the eastern hemisphere. Except in California, we have made only a few isolated attempts in irrigation, but wherever tried systematically it has proved eminently satisfactory. The time cannot be far when we shall become enlightened enough to utilize the immense stores of fertility contained in our mountain lakes and streams, which are now permitted to flow into the ocean.

The use of *Potted Plants* has likewise become more general, and as an article of trade they are already of considerable importance. For the amateur, and especially in cases where spring planting is not practicable, potted plants have certainly much in their favor. With good potted plants, failure is almost impossible. They may be set out during summer, on ground from which a crop of early vegetables has already been harvested, and produce nearly a full crop of berries the following season.

Before closing, will you permit me to review briefly the benefits which progress in Strawberry culture has brought us, as a people and as a nation. Let us leave for a moment the crimson waves of the fragrant current which we have seen rolling over Strawberry fields and markets, to follow the mild ocean breezes which fan the luscious aroma far over the land; let us follow the little curling waves that flow through valleys and over plains, and push their gentle ripples to the remotest farm-house; let us enjoy a plate of luscious berries with the far-off pioneer, and participate in the delight and enjoyment which the divine fruit spreads in cot and palace alike.

It is but a few years since Strawberries were considered a great luxury, to be indulged in only by the wealthy who could employ professional gardeners skilled in the mysteries of their culture. Improvement and progress have dispersed these antiquated notions, and have placed a Strawberry-bed in the garden of every right-minded citizen. While many of those present may remember the time when Strawberries were hardly known as a luxury even, it would be difficult to find now a comfortable home in city or village, or on the farm, where Strawberries do not constitute an indispensable part of at least one meal a day during the season. It is true that improved means of communication and transportation have greatly facilitated the distribution of this delicate fruit, but were it not for the improvements in Strawberries and progress in Strawberry culture, could it be supposed that our Strawberries of the past would have become more disseminated than they were then? It is only through the wonderful progress in cultivation and improvements by hybridization that the Strawberry has reached its present commercial importance.

Statistics show that the value of Strawberries sold annually in our large cities amounts to many millions of dollars, but the priceless value in enjoyment, in good cheer and health to the millions who grow and pick and eat their own berries, is incalculable. With the planting of every Strawberry-bed on a farm where there was none before, the corner-stone is laid for a happy home, for every plant we intrust to the soil bears in it the germs for happiness and health. Would we know where the Strawberries grow, let us drive along the country road to yonder cozy cottage, where the rosy cheeks and bright eyes, the happy faces and cheerful expression of the children playing under the rose-covered veranda, tell, plainer than words can tell, that the Strawberry-bed is not far away.

But progress in Strawberry and other fruit culture has accomplished more than invigorated health, increased enjoyment, and made home dearer to our children; it has sharpened observation, brightened thought, and inspired the development and stability of the noblest traits of human nature. No plainer object-lesson was ever taught, no more impressive sermon preached, than that which Nature has instilled in every root, in every leaf, in every expanding bud, and every fading flower which must wither that the more perfect fruit may spring into life.

There is a class of people who do not believe in progress, who think the world had reached perfection when they were young, and that it has gone backward since. But who could, fifty years ago, have imagined the wonderful progress of the present day, and who can conceive what progressive ideas, progressive minds, and progressive men will accomplish in another half-century? We may, at times, go too fast, and make missteps, or we may put on too much steam and burst a boiler, but what of that?—what does the brave soldier care if he must lose his life that his brothers may march to victory?

He who does not believe in progress is the most virulent sore on the body of the community, the most dangerous enemy to society, the state, and mankind; far better that he should perish than impede the wheel of progress.

American Pomological Society.—The Massachusetts Horticultural Society having invited the American Pomological Society to hold its next meeting at Boston, the President, Hon. Marshall P. Wilder, gives notice that the eighteenth session of this National Association will be held in that city, commencing September 14, 1881, at 10 o'clock, A. M., and continuing for three days.

This session will take place at the time of the Annual Exhibition of the Massachusetts Horticultural Society, which is expected to be of unusual excellence, and will give additional interest to the occasion.

All Horticultural, Pomological, Agricultural, and other kindred associations in the United States and British Provinces, are invited to send delegations as large as they may deem expedient; and all persons interested in the cultivation of fruits are invited to be present, and take seats in the Convention.

It is earnestly hoped that there will be a full attendance of delegates from all quarters of our country, thereby stimulating more extensive cultivation by the concentrated information and experience of cultivators, and aiding the Society in perfecting its Catalogue of Fruits. This Catalogue includes fifty States and Territories, most of which have their columns filled with a great amount of information as to the fruit adapted for culture in the respective locations. Many of these are yet incomplete; and it is the object of the Society, from year to year, to fill the blanks, and bring its Catalogue nearer to perfection.

This session will be held at the home of its President, where, after an interval of years, occasioned by ill health and a serious accident, he hopes to have the pleasure of meeting, not only his old friends, but others from the various sections of our country, and again to unite heart and hand with friends for the promotion of the objects of the Society.

When we consider the importance of fruit culture in North America,—its progress during the last thirty years under the beneficent action of this Society, its moral, social, and sanitary influence, and the increasing demand for its products, both in this country and Europe, rendering it a source of national wealth,—we feel justified in urging the attendance of all who are interested in the welfare of our country and the development of its wonderful resources in this branch of industry.

All persons desirous of becoming members can remit the fee to E. W. Buswell, Treasurer, Boston, Mass. Life-membership, twenty dollars; biennial, four dollars. Life members will be supplied with back numbers of the proceedings of the Society as far as possible.

The New York Horticultural Society.—The spring exhibition of this society, just held at Republican Hall, No. 55 West Thirty-third street, may be considered a great success, in regard to the number of appreciative visitors as well as the excellence of exhibits. The tendency to reward quality in preference to quantity showed its beneficent effects everywhere, and the grand collections of Rhododendrons, Azaleas, Roses, Pæonies, Hardy Plants, and especially Strawberries, were probably never excelled in this city.

Rural Life.

FARM-HOUSE SUMMER LIFE.

While the beauties and attractions of the leading summer resorts are constantly dilated upon in the newspapers, but little is written in praise of the homely comfort and simple enjoyment which are obtained by the sensible people who take board at farm-houses during the hot months of the year. The glitter, the display, and the excitement of summer life in the country are concentrated about the big and fashionable resorts, and the quietude and retiracy surrounding those who go to farm-houses for rest and recreation seems tame and insipid in comparison. Consequently, many who cannot well afford it insist on visiting noted resorts, where they feel obliged to dress in a fashionable manner and to observe formal rules of etiquette, sacrificing meanwhile real comfort and not obtaining the full benefit of an out-of-door life.

The sensible people who are shrewd enough to detect the great disadvantages inseparable from the fashionable resorts, and who take board with farmers, have a far different experience. They are constantly aware of a refreshing feeling of freedom from all artificial restraint. They can make comfort paramount, and do not have to spend a precious amount of time in studying how to please the foolishly fastidious taste of fashionable critics. The fair sex can put on roomy sun-bonnets and calico dresses, and the men and boys broad-brimmed straw hats, and coats and trowsers suitable for roughing it, and wander about the woods and fields at will, or recline dreamily in hammocks under shady apple-trees, inhaling the purest air and enjoying themselves in a thoroughly homelike manner throughout the livelong day.

One of the greatest advantages of farm-house resorts is that they are not expensive. Many families of moderate means can afford to take board with a farmer for the whole or the greater part of the summer; whereas, if they went to a fashionable hotel, they would either have to make only a short stay, or else spend money to an extent that would render them seriously short of cash during the remainder of the year. Richer and more varied fare would be furnished them at the hotels, but the best of milk in abundance, the freshest vegetables, and the choicest fruit in its season are always to be had at the farm-house, and never fail to whet up the appetites of those who have eaten largely of pastry and baker's truck during a long period of confinement in the city. None but confirmed sybarites, or persons so particular as to be fit only for the company of angels, can fail to enjoy wholesome country fare that is skillfully prepared and neatly served.

Almost every part of the country is charming in summer, but some portions possess such decided advantages and superior attractions as to render it well worth one's while to seek them out, rather than to take board in some rural locality where there are no especial attractions. In this connection, a word for Berkshire may be fitly spoken. It is easy of access, its hills and valleys, streams and lakes, and beautiful towns and villages offer inducements such as few other rural localities can extend to city guests.

Foreign Gardening.

SPARROW-GRASS.

DEAR BROTHER,—

You've asked me in terms to relate
How to grow Sparrow-grass to have it first-rate;
You ask what I do, and how it is done,
To insure in the quality letter A one.
I'll disclose to you all you desire to know,
To be happy at dinner and win at the show.

Be firm in the thought and prompt in the deed,
Persist in destroying each insolent weed:
Let no such intruder e'er rob of its food
A plant that is worthy of everything good.
Yes, root out the weeds whenever you pass,
If you wish for a crop of the very best grass.

When autumn arrives, and the growth is done brown,
Take a terrible knife and cut it all down;
Then fork the beds lightly; don't injure the roots,
Or you ought to do penance with peas in your boots;
Make tidy and clean, remove all the litter,
Then take a short rest and a mugful of bitter.

Now, refreshed by the essence of hops and of malt,
Bring forth your supplies of soot and of salt;
Spread the black stuff to cover the bed like a pall,
Then sprinkle the salt to make white over all;
Some stercus (politely so called) from the stable,
Lay two inches thick, or three, if you're able.

Leave all alone now to the mellowing light,
The rain and the frost, and the dew of the night;
But at times you must drench the bed freely with sewage,
And for this you need only the household brewage.
Put it on as you get it direct from the house,
And, if needful, be secret and sly as a mouse.

When winter sets in leave the whole thing alone,
If you sewage in frost you will soon be undone;
In times when the rain kills the flowers and midges,
Put sewage on land that is laid up in ridges.
When the grass has done growing it needs a long rest,
So withholding the stimulants now is the best.

Once more the bright spring, with her elegant tresses,
Her laughter and tears, her green and gold dresses,
Will skim o'er the land to make us all merry,
And put on our faces the bloom of the cherry:
Then, then, my Sparrow-grass grower, look out:
There is work to be done, if your sinews are stout.

Your loins must be girded, your head in its place,
Your feet firmly shod, and your knife in its case;
Spread straw or rough litter all over the bed,
To screen off the wind, or your grass will rise dead:
By "dead" I mean dull, dry, shriveled, and shrunk,
Like a man who much tipples, yet never gets drunk.

Once again pull the weeds, let the salt-box be found;
Give a dusting like snow to cover the ground;
Do all this before a green top shall appear,
And you'll have your grass right for the rest of the year.
But beware of great haste in removing the sticks;
Let them grow to four inches or even to six.

Then pull—do not cut—and the crop will be fine;
You will say to your cook, "I desire to dine";
Rich and tender, full-flavored 'twill be, if cooked right—
Fill the stomach with food and the soul with delight!
Oh, the world must be good that in plenty produces
A grass so abounding in delicate juices!

Once in for this pastime, bravely go on.
Fill the basket each morn in advance of the sun;
But on June seventeen the tables must turn
You must cease to take grass, though your fingers may burn.
One more merry pull, 'tis the last you may have,
Unless for your grass you'd be digging a grave.

Be content, let it grow, make an end of your feast;
Be wise like a man, do not waste like a beast;
Thus, season by season, as weeks and days pass,
You must manage the work as you wish for good grass.
If you think the name vulgar you may, without malice,
Just call it Asparagus officinalis.

—*The Gardener's Magazine.*

BOOKS AND PAMPHLETS RECEIVED.

Synopsis of a Course of Lectures on Practical Floriculture, delivered at the Cornell University by Prof. W. R. Lazenby.

California Roses, by W. A. T. Stratton; a comprehensive essay on the cultivation and best varieties of Roses for California, read before the State Horticultural Society.

Quarterly Report of the Kansas State Board of Agriculture, containing, among other valuable information, an excellent article on the Tame Grasses in Kansas, by Professor E. M. Shelton, of the State Agricultural College.

Regulations and Schedule of Prizes of the International Potato Exhibition, for the encouragement of the best means of Potato Culture, and the introduction and diffusion of improved varieties, to be held at the Crystal Palace, Sydenham, London.

Proceedings of the New Jersey State Horticultural Society.—At its annual meeting, held at Newark, February 10th and 11th, carefully reported by the Secretary, Mr. E. Williams, of Montclair, N. J. This pamphlet contains several excellent papers, and the discussions thereon, in which some of the most prominent fruit-growers of the country participated.

May Bulletin of the New York State Agricultural Society.—A statistical table showing the condition of the various crops in each county of the State. Almost all the returns mention that the season has been late and very dry. The numerous unfavorable reports as to grass appear to be generally due to this fact, and the late copious rains have no doubt entirely changed the situation.

Eighth Annual Report of the New Jersey State Board of Agriculture, 1881, by P. T. Quinn, Secretary.—A valuable volume, containing Prof. Geo. H. Cook's report on the Agricultural College Farm; articles on Fertilization by J. B. Lawes; on The Culture of Corn, by Henry Stewart; and much other information of value, not only to the farmers of this State, but throughout the entire country.

The Hills and Homes of Berkshire, by Clark W. Bryan, Great Barrington, Mass.—In this neat and tastefully gotten-up little pamphlet the attention of those who are seeking rural retreats is drawn to the attractions of Berkshire. A trip from New York up the Housatonic Valley and among the magnificent scenery of "Old Berkshire" is vividly and truthfully described, interspersed with excellent illustrations and charming bits of poetry, commencing with the following beautiful verse:

> "Between where Hudson's waters flow
> Adown from gathering streams,
> And where the clear Connecticut
> In lengthened beauty gleams—
> Where run bright hills, and stand high rocks—
> Where health and beauty comes,
> And peace and happiness abides,
> Rest Berkshire's hills and homes."

Seedless Fruits, by Dr. E. L. Sturtevant, South Framingham, Massachusetts, reprinted from the Transactions of the Massachusetts Horticultural Society.—The author mentions here, as the results of most painstaking research and study, a large number of instances to prove that: "Seeding is not an essential characteristic of individual plants; and that (1) pollination is not always productive of fertilization; (2) the access of pollen is not always necessary for fertility; (3) fertilization is not always necessary for fruiting." The writer does not yet claim to have solved these problems, but "it seems probable that in the future the most rapid horticultural advance is to be sought through the selection of seedlings from fruit containing the fewest and smallest seeds of their kind, as unconsciously seems already to have been done in the improvement of the grape."

Barn Plans and Out-Buildings. Published by the Orange Judd Co., New York. Price $1.50.—A neat volume of over two hundred pages, illustrated with two hundred and fifty-seven engravings. The fact that the bulk of the work has been performed by Dr. Byron D. Halsted, assistant editor of the *American Agriculturist*, and one of our most esteemed contributors, will be sufficient guarantee for its thoroughness. While most former works upon Farm Architecture have been so elaborate and expensive as to be available to but few, it appears to have been the aim of the author of this volume to condense, as far as possible, all the information which those who contemplate the erection of farm buildings might require. Farm Buildings and Barns in general, Poultry Houses, Piggeries, Carriage Houses, Corn Cribs, Ice Houses, Dairy Houses, Spring Houses, Granaries, Smoke Houses, Dog Kennels, Bird Houses, Silos, Root Cellars, etc., are all treated separately and copiously illustrated. In addition to the architectural construction, much practical information about farm management and economy is embodied, so that even those who are already provided with buildings can learn much from its pages—many times more than the price of the volume.

Henderson's Hand-Book of Plants, by Peter Henderson; published by Peter Henderson & Co., New York. Price $3.00.—This elegant volume has been on our table for some time, and in frequent, almost daily use, so that we can speak advisedly about its great value. In fact, we should consider it a serious loss if we should suddenly be deprived of it, and there are but few books in our library the loss of which would be more seriously felt. The title of the book but imperfectly indicates its contents, as it is not only a hand-book, but an encyclopedia and compendium of nearly everything pertaining to horticulture and plants—their names, classification, history, and culture. Although even the superficial observer cannot but appreciate its usefulness, only those familiar with similar works can form a correct estimate of the immense amount of labor required for its completion. As a book of horticultural reference, it is much superior to anything ever attempted in this country. And while most standard works relating to the subject were consulted in its preparation, it is far from being a mere compilation, but embodies in its pages the results of the life-long experience of the author, one of the foremost progressive horticulturists of the day. We cannot recommend the book too highly to the professional as well as to the amateur horticulturist.

ANSWERS TO CORRESPONDENTS.

The Manchester Strawberry.—Competent fruit judges have declared this new variety to be larger, better, more prolific, and as firm as the "Wilson."

Gold and Silver Ferns.—*Mrs. C. O. P., Stephens, Mich.*—Ferns are propagated by division of the roots or from spores. Gold and Silver Ferns, as a rule, do not succeed well in Wardian cases. They require a dryer atmosphere, and often "damp off" when confined.

Raspberries.—*R. L. C., Tennessee.*—In the Southern States, and, in fact, anywhere where the soil is dry and mellow, fall planting is best for Raspberries and similar plants. Turner, Cuthbert, and Brandywine, among the red, and Doolittle, Miami, and Gregg among the black sorts, have given satisfactory results in your State.

Potato Scab.—J. *S., Waukesha, Wis.*—The nature of scab is but little known; it is believed to be caused by minute parasitical insects of the mite class. In some soils it seems that Potatoes grow scabby in spite of everything. We have found that, since the exclusive use of commercial fertilizers, scab has disappeared from our Potatoes.

Rhubarb.—*H. R., New Hampshire.*—New beds may be made either in the fall or spring of the year, provided the ground is in proper condition. On heavy or wet soil, spring planting is preferable. In this case it is best to take up the roots in the fall, divide and keep them in a cool cellar, and set out as early in spring as the ground is dry enough to be worked.

Bermuda Onions.—*E. T., New York.*—The Onions from Bermuda which come to our markets in early spring are known by seedsmen as *Madeira Onions*. The true seed is, we believe, grown only on the island of Teneriffe. The seed sold in the United States as Bermuda Onion, and used extensively in the Southern States, is mostly *Giant Rocca*, imported from Italy. This is a splendid variety, with light brown skin, and of immense size, single bulbs attaining sometimes a weight of three pounds and over.

Lilium Brownii.—*B. F. B., Kentucky.*—Lilium Brownii should be left out-of-doors all winter, and covered with thoroughly decayed manure to the depth of three inches. In spring, sow around it, about twelve inches away from the stem, Mignonette, or Sweet Alyssum, which will cover the ground and prevent the sun from roasting the roots. In the fall, cover over with some more fresh manure; on the top of this place an old box, or keg, without top and bottom, and fill with dry leaves. After danger of frost, remove all the covering except the manure. This Lily ought to do splendidly in Kentucky. The soil should be enriched with leaf-mold, rather than strong manures.

Sea Kale.—*Mrs. B., London, Ontario.*—Sea Kale may be increased from roots as well as from seed. Division of the roots is the quickest way to produce a crop. The old clumps are dug up in the fall, divided, and kept in a dry, cool cellar, covered with sand, until spring, when they are set out in the open ground; or, if more plants are desired, the roots may be cut up into pieces of two to three inches in length, started in a hot-bed, and planted as in the other case. When grown from seed, it is sown early in spring, in drills three feet apart and two to three inches deep, in the proportion of about one ounce to every one hundred and fifty feet drill. Later, the plants should be thinned out to not less than one foot apart.

Ornamental Plants.—*S. B. W., Rochester, Minn.*—For summer plants, such as are not hardy, would mention Cannas, Coleus, Caldium esculentum and arboreum,—the latter, one of the very finest plants, with immense upright leaves, larger than esculentum; Acalypha tricolor, Geraniums, Verbenas, Heliotropes, and Roses.

Of hardy plants, and such as will stand the winter, the hardier species of Lilies, Iris in variety, especially Kæmpferi, Eulalia variegata and zebrina; Chrysanthemums, early varieties; Delphinium formosum, Dielytra spectabilis, Lychnis viscaria, Anthericum, liliastrum, Funkias, Hemerocallis, Pæonias, Spirea palmata, and Japonica.

Rose Slugs.—*Mrs. H. D. T., North Haven, Conn.*—The dropping off of the leaves of your Roses is probably caused by *Slugs*. Occasional applications of a solution of one pound of whale-oil soap in about eight gallons of water are an excellent preventive. Dusting with White Hellebore will destroy them, and Persian Insect Powder would, no doubt, have the same effect.

Mr. M. Milton recommends, in the *Country Gentleman*, to all cultivating Roses out-of-doors, "to mulch the borders or beds in which Roses are growing, in the fall or spring, with tobacco stems. It prevents the ravages of the rose slugs. When treated in this manner, additional vigor is given to the Roses, which I attribute to the benefit of mulching and the preventing of the devastations by slugs at the most vital time of the plants' growth."

Remedy for Cabbage-Worms.—*Mrs. J. W. S., Woodslee, Canada.*—Dusting with lime, Tobacco, White Hellebore, and other substances, is recommended. The recent investigations of Professor C. V. Riley seem to give preference to Pyrethrum, the Persian Insect Powder of commerce. The professor says: "Of all the many remedies that have been tried for the imported Cabbage-worm since it first began to spread over the country, and to play havoc with our Cabbage-fields, few, if any, have given satisfaction. It is safe to say that the most satisfactory remedy so far discovered is in the use of Pyrethrum. We were the first to apply this, in 1879, but did not care to recommend it until further experiments had been made. These we have made the present year, and caused to be made by a number of our agents and correspondents. The general experience is most favorable, and we unhesitatingly recommend it for all the different worms affecting the leaves of our Cabbage plant."

Asparagus Beetle.—*B. S., Charleston, S. C.*—Mr. A. S. Fuller, the eminent entomologist, who has made this pest a special study, says: "Lime is not only a very cheap and effectual cure for the evil, but one readily obtained in all parts of the country. With a pailful of dry lime and an old broom for a duster, or one of the sifters used for Paris green to Potatoes, a man can soon go over an acre of Asparagus. The best time to apply the lime is in the morning, while the dew is on, for then a portion will adhere to the plants, as well as to the grubs, and during the day following it will be constantly dropping down, or blown about among the leaves and branches, thereby making the escape of any larvæ all the more uncertain. The lime is also beneficial to the Asparagus roots, hastening the decomposition of the manure usually applied in large quantities to the beds. For the past sixteen years, I have used lime, as described, on my Asparagus beds, to keep the insects in question in check, and it has done it so effectually that about one application every alternate season has been sufficient."

Small Fruits for Utah.—*R. V., Ashley, Uintah Co., Utah.*—Our correspondent writes: "I am utterly at a loss what to plant. Ashley has an altitude of about four thousand five hundred feet; short winters, hardly any snow; cold weather, mostly only from Christmas to about the first of February,—the thermometer falling as low as eighteen degrees below zero at night. Even in winter the days are hot; just now the thermometer indicates from ninety-five to one hundred and eight degrees in the shade, at noon. Night frosts extend usually to the middle of May, and commence about the middle of September. Soil, a rich, sandy loam, or clay. I have tried a great many kinds of fruit-trees, but all were winter-killed. We have no rain-fall and but little snow; everything depends on irrigation. What varieties of small fruits would be likely to suit me here? We have no express station nearer than one hundred and fifty miles, and everything has to come by mail."

The prospects for fruit-raising in such a climate do certainly not appear very promising. Heavy mulching in summer, as well as winter, will probably prove beneficial to all kinds of fruit. Would recommend a trial of Charles Downing, Crescent, Cumberland Triumph Strawberries; Turner, Cuthbert, Gregg Raspberries; Snyder Blackberry; Red Dutch Currant, and Concord, Clinton, and Brighton Grapes.

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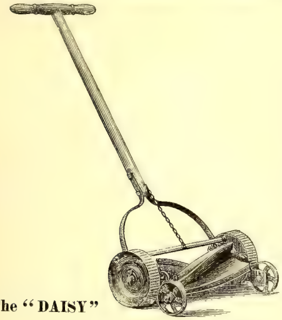

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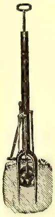

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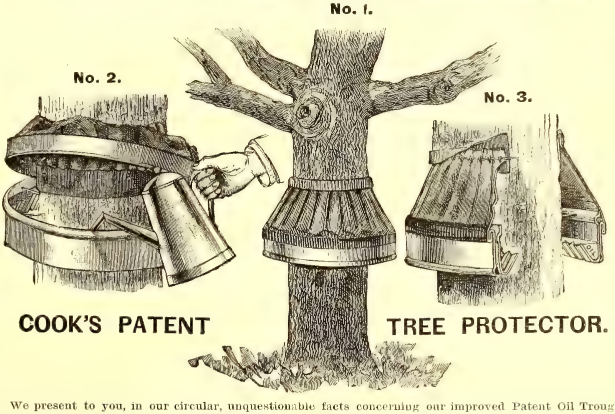

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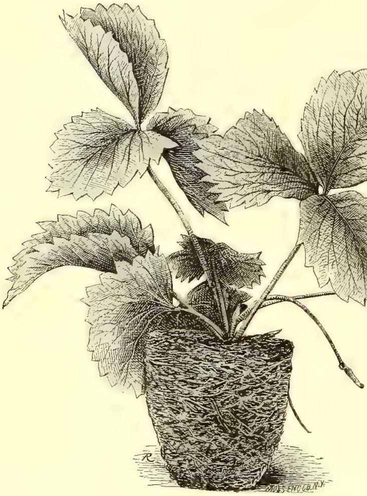

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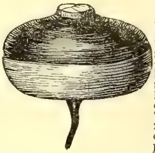

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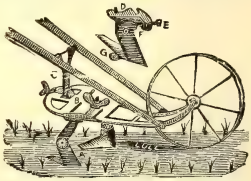

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For the Conservatory and the Flower-Garden, for Sowing in August and September.

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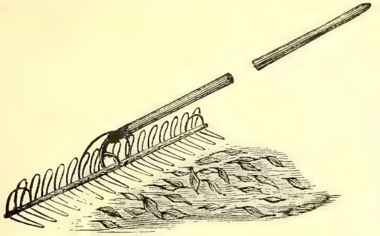

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Will level and prepare a garden bed for the seed better and quicker than any other tool. Will clean a race-track perfectly. Just the thing for ladies wishing open-air exercise. A man with one will do the work of six or eight men in a superior manner. The work is light and easy, as the rake is drawn over the ground instead of being carried. *Landscape gardeners will use no other after trying this.* Grass will grow faster and look much better after being combed a few times with the rake.

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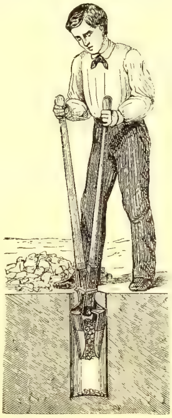

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This tool has been thoroughly tested during the past three years, and as yet no place has been found where it has failed to do its work satisfactorily. The principle on which it works prevents adhesion in sticky soils, hence it always works free and easy; **no clogging, no knee work, no backache.** It is far superior to all **Plungers, Augers,** and **Boring Machines,** as it works equally well in **stony, sandy,** and **clay soils. Quicksand** under water is as certainly handled and removed as though no water existed. Hundreds have used them for setting **curbs** in **wells** where there was quicksand. For **setting out trees,** and transplanting it is unequaled; also for **cleansing out wells,** and for **tiling.**

The length of the steel blade is nine inches, and the extreme length of the tool five feet; weight only eight pounds.

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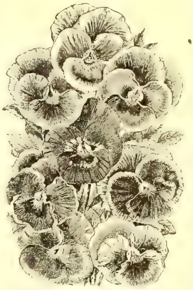

The seed we offer is grown in Germany by one who has made this flower a specialty for many years. In size and beauty of the flowers, this strain is unapproachable. Dr. Thurber says, in the *American Agriculturist* for June:

> BEAUTIFUL PANSIES.—No doubt that many who have seen the colored plate illustrating Pansies, and published by Messrs. B. K. Bliss & Sons, have supposed that the artist had exercised his imagination, both as to size, and the strange combinations of colors. So far from this being the case, the flowers are, if anything, rather below the real size, and as to colors, it would be impossible to conceive of any artificial colors more brilliant, or more strangely contrasted, than they are in flowers produced by this remarkable strain of seeds. Some of the blooms are as near black as it is possible for a flower to be, and of a velvety texture of great richness.

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The Pansies are in full bloom; the finest I have ever seen. I shall save every seed.

P. E. COPE.

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WM. ADAMS.

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August and September are the best months for sowing pansy seed for blooming next spring.

For general directions for the cultivation of the pansy, see July and October nos., 1880, of the AMERICAN GARDEN.

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The engraving of the Cuthbert Raspberry, on page 4 of the April number of the GARDEN, copied by permission of the publishers, shows the character of the illustrations.

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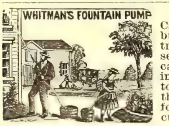

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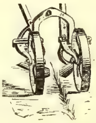

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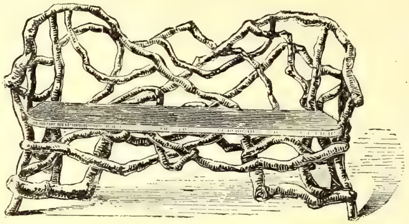

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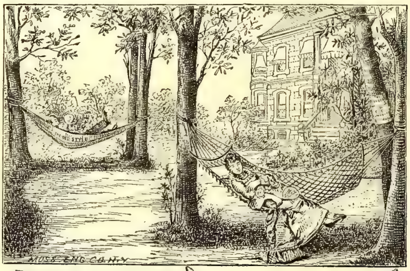
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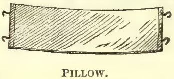

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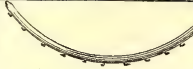


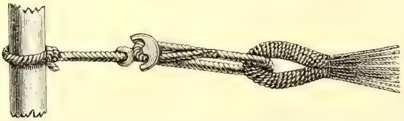
SPREADER.

They consist of two adjustable **Spreaders,** and a yielding **Head-Rest** or **Pillow.** The SPREADERS are made from hard wood, bent bow shape. They are provided with hooks on the lower edge, which fasten into the netting of the Hammock, and hold the spreaders firmly in position. These spreaders are placed at each end of the Hammock, as shown in cut. They are readily removable for stowing the Hammock conveniently away. The PILLOW consists of a strip of cotton duck, 18 inches long and 6 inches wide; it is provided with a hook at each end, and is shorter than that part of the Hammock over which it extends, so that it will be drawn taut when the Hammock is properly suspended, and thereby elevated above the central part of the Hammock, constituting thus a yielding head-rest. The utility of this novelty will be seen at a glance.

The SPREADERS keep the Hammock open like a cot, and remove its cramping propensities entirely. LADIES AND CHILDREN can use the Hammock without danger of overturning. The PILLOW is a cool, comfortable head-rest, and will be found a great acquisition to the Hammock. The attachments make the Hammock a complete luxury. They are neat and strong, and add greatly to the beauty of the Hammock.

THE ANCHOR HAMMOCK ROPES,

PATENTED MAY 3, 1881.



Avoid tying and untying knots. Rig up your hammock with this new device. It is the simplest and best contrivance ever offered for the purpose.

The Hammock can be adjusted to any height by sliding the anchor up or down the rope. This will lengthen or shorten the rope, and hold it secure in the length to which it has been adjusted. The anchor operates on the rope as a friction clasp and slide, and as soon as weight is placed in the Hammock, the anchor will bite on the rope and insure positive safety in sustaining the Hammock.

The Hammock can be rigged up and taken down in an instant without tying a knot.

Spreaders, per pair	50 cts.
Pillows, each	25 "
Anchor Ropes, per pair	50 "

Peerless Hammock, without attachments	$1.50
Mexican " white	1.75
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W.H.Gibson

Third Series. NEW YORK, OCTOBER, 1881. Vol. II.—No. 3.

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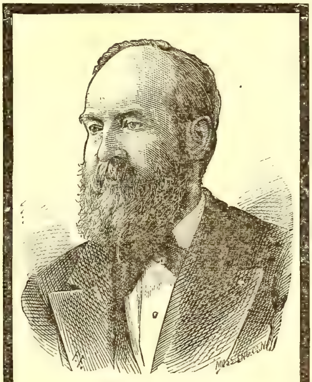
A NATION IN MOURNING.

Whatever bereavements may have befallen our people before, however deep and severe we may have felt the pangs of former losses, never before in our history has so universal, so profound, and heart-felt sorrow pervaded throughout our entire continent.

While we write these lines, the funeral train carries the nation's cherished charge from the Capitol to its last resting-place; doleful peals resound from every church-tower in the land; the boom of the minute-guns reverberates through the air; from every steeple and flag-staff the national banner, at half-mast, floats in the breeze; public buildings, stores, the modest dwellings of the poor, as well as the palatial mansions of the millionaires, are draped in black and white, the emblems of mourning. Onward speed the iron wheels over the flower-strewn track; in speechless sorrow and silent reverence, with uncovered heads, thousands upon thousands line the road-way, as the train passes, to bid the last adieu to their martyr President. But away from the public gaze and excitement, in every lonely chapel and far-off farmhouse, the fervent prayers of millions rise heavenward for their beloved chief. Yet a sympathy still deeper and nobler than that for a lost ruler has taken possession of every one—that for so grand an example of true manhood. His heroic struggle for life, his patience in suffering, his resignation to the inevitable, and his sublime Christian faith, have attracted the admiration of the whole world; and few American homes will be found where his loss is not deplored to-day almost as sincerely as that of a member of their own household.


JAMES A. GARFIELD.

In the beautiful grounds of Lake View Cemetery his weary and tortured body will find its last resting-place, in sight, almost, of the log cabin where he was born, and where, by his own persevering toil, he commenced to elevate himself from a poor farmer-boy to the highest station attainable by man. To this hallowed spot thousands will be drawn, on every recurring anniversary of this sorrowful day, to strew flowers on the hero's grave and commemorate the nation's loss.

An imposing tomb will probably soon be erected by a grateful people; but a more lasting monument to his noble career and rare virtues than can be cut from stone or molded of bronze stands already engraved deep in the breast of every American citizen. President Garfield's memory will live in the nation's heart—in the nation's love—forever.

OUR PREMIUMS.

We have reason to believe that our premium-seeds generally have given satisfaction. It is, of course, not possible that all should have been successful, especially in so unfavorable a season as the past one; yet the many letters received give unmistakable proof that many a spot that would otherwise have remained barren has been made bright and blooming by our Wild-garden Seeds, and that they brought sunshine and cheer into many a home. Will our friends do us the favor to let us hear of their successes and experiences? Nothing adds so much to the freshness and value of a journal as the frequent interchange of ideas between reader and editor. It is, of course, impossible to answer every communication received; yet each suggestion or experience aids to give a better comprehension and understanding of the real wants of its readers.

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The Vegetable Garden.

SEASONABLE HINTS.

During this month, and until the ground freezes hard, much can be done to make our next year's gardening successful. Poles and pea-brush should be stored under a shed, and all rubbish and refuse matter raked in heaps and burned, or added to the compost heap.

Whenever practicable, the land to be planted next year should be plowed or spaded roughly before winter. This not only adds much to the neat appearance of the garden, but also makes the soil lighter, drier, and admits of earlier working in spring.

Asparagus.—In dry ground, Asparagus may be planted now as well as in spring. The soil must be rich, but the roots should not come in direct contact with fresh manure. A light covering of straw or leaves during winter prevents the roots from being thrown out by frost.

Cabbage.—Light frosts do not materially injure winter Cabbages, but if exposed to a few nights of heavy freezing, they will not keep well; it is therefore safer not to defer harvesting later than the middle of November. Small quantities may be heeled in soil in the house cellar. Market-gardeners keep Cabbages out-of-doors by placing the heads down close together and covering with a few inches of soil.

Celery.—Continue to bank up all that is wanted for early winter use. Small quantities may be kept in boxes or barrels in a cellar, but generally there is less loss when packed outdoors. In a convenient spot where there is a natural slope, a trench is dug, about ten inches wide and as deep as the length of the stalks. The Celery is then dug up carefully, so as not to break or bruise any of the stalks and leaves, and packed in this trench close together in an upright position, commencing on the upper end. Some loose soil is then pressed against the tops from the sides, and later in the season more earth is drawn toward the tops, so that the whole appears like a single row of Celery. At the approach of hard frosts, the whole is covered with straw or stalks sufficient to protect from freezing. By opening the trench at the lower end, any quantity desired may be taken out at any time, with little trouble.

Potatoes.—The war against the Potato-beetles should be continued "to the bitter end." It is a mistake to suppose that these pests cannot do any more damage after the vines have reached full growth. The action of the leaves is as necessary for the growth of the tubers of the Potato-plant as are the leaves of a tree to the maturing of its fruits. But another and, perhaps, more serious evil results from ignoring the late broods of the beetle. The bugs which infest the latest crops, if not destroyed, winter in the ground near by, and will be ready to devour next year's crop as soon as it appears above-ground.

Squashes.—Much disappointment in keeping Squashes is caused by leaving them too long on the vines. The slightest frost injures their keeping quality. They should be gathered on a dry day, handled with care, and kept on shelves in a dry place, where the temperature does not fall below forty nor rise above fifty degrees.

AUTUMN GARDENING.

In the spring there is no trouble about knowing what seeds to plant in the garden, but when it is midsummer, and some of the earlier things are gone, and vacant spots appear, then it is more difficult to tell just what to put into the ground. The growing season is so well over we must make close calculation, or the seed and labor will be lost. Where a cow or a pig is kept, one can hardly go amiss in planting, but for the table there must be time to mature. Corn will not grow well after the hot weather is past, and so we must get this in in time for not less than sixty days of warm weather. We cannot depend on even the earliest varieties. After the middle of July, Early China and Butter Beans will mature, if we have to wait till nearly, if not quite up to, the first of August. Early Peas, the dwarf varieties, especially, will fill with two months of growth, and not mind frosts—nothing short of a freeze-up. Turnips of the strap-leaf sorts may be planted any time, and they will keep on growing till the winter comes. Turnips sown the first of September, in rich ground, will have nice bottoms, and they will be tender and crisp, more so than if started earlier.

After September, we must look forward to the next year, and busy ourselves in the garden getting ready. The vacant spots may be spaded up so that Jack Frost can do his work more effectually, and pulverize the ground better. Ambitious weeds will start to grow, and so the next spring there will be less of them to contend with, and the ground will be light and mellow, and with little labor may be fitted to new seeding. The first of November, a bed may be prepared, and Lettuce sown, which will start the first thing in spring; and Peas can be put in, which will give them an early growth, as they are hardy, and sprout as the frost leaves the ground. No doubt, Onion seed could be planted in the fall, and so help in the busy spring to get a better start. An Asparagus bed may be prepared in October, and the seed put in as well as in the spring, and better, as the action of the frost will cause the seeds to germinate quicker, and the young plants will get ahead of the weeds, when, if planted in the spring, the weeds would be far ahead of them. If the rows are marked, as they should be, the weeds may be kept under in the spring in both the Asparagus and Onion beds. If weeds should start before the planted seed, they can easily be kept down by scratching the ground with a garden rake, or going over the surface with a hoe.

Farmers are learning to plow as much as possible in the fall to expedite the work of spring, and so gardeners should prepare the garden, as much as is wise, in the autumn. The Asparagus bed should be spaded deeply, and plenty of manure put in, and the seeds scattered in rows a foot and a half apart. The plants will grow in bunches or tussocks, and the farther they are apart the larger the stems will be. Roots may be obtained and also planted in the fall; a slight mulch should be thrown over them, to keep the frost from heaving them out. Roots will furnish an earlier supply for the table than when the bed is started from the seed.

Rhubarb roots may be planted now, and will thus make an earlier start in spring. They should have a light protection during winter.

THE POTATO ROT.

There is probably no disease of cultivated plants that has caused so much suffering to the human family as the "wet rot" in Potatoes. This disease occurred in a most violent form in 1842, and again in 1845, when it spread over a great part of the United States, Great Britain, Ireland, and portions of Central Europe, causing a partial or entire destruction of the Potato crop, and with it an untold amount of suffering to those people who rely largely upon the Potato for their daily food.

It has been known to botanists for thirty years that the Potato rot is caused by the growth of a microscopic fungus, known to science as *Peronospora infestans.* It is a near relative of a number of parasitic fungi of the same genus, which prey upon other agricultural plants, such as the Grape mildew, *P. viticola*, Lettuce mildew, *P. gangliformis*, etc. This fungus first manifests its presence as a frost-like covering on the under side of the foliage of the Potato plant, soon causing the leaves to curl; and so rapid is its destructive work at times, that in a few hours the green and vigorous vines are changed into a brown mass of decaying vegetation. Next after the leaves, the stems are attacked, and from them the disease passes down to the tubers, where it does its greatest work of destruction.

The fungus consists of a number of very fine threads, which grow in all directions through the tissue of the tuber, and, absorbing nutriment for its growth from the tuber, it induces a decay that is rapid in its work, producing a worthless and disgusting mass of rotten vegetable matter. As a general thing, the disease is of a milder type, and only a few leaves or a few plants may at first be attacked, from which, if left alone, the rot spreads until the whole field is more or less affected.

The rot makes its appearance from the first to the middle of August, and is always associated with rains; that which is called "muggy" weather being the most favorable for its development.

In midsummer, the farmer should be on the watch for the brown spots on the leaves, and, as soon as found, the crop should be harvested; any delay will allow the fungus time to spread to the stems, and from them down to the tubers, and then, should there be a damp spell, the Potatoes are quite sure to rot. After digging, the Potatoes should be placed in a cool and dry place, thus surrounding them with conditions the most unfavorable for the further growth of the fungus that may be already present in the substance of the tubers.

With a knowledge of the time of year the fungus makes its attack, it is evident that, by growing quick-ripening varieties and planting them early, the crop may be gathered before the time for the rot to come. On this account, in particular, the growing of early sorts is recommended.

As a precaution against the propagation and spread of the fungus, the vines of all the Potatoes should be gathered after digging and burned, thus destroying many millions of minute spores that would otherwise remain to cause further trouble. Any tubers that are at all affected should be thrown out, and either fed to stock or burned. The storing of one such Potato may communicate the rot to the whole bin.

ITALIAN ONIONS.

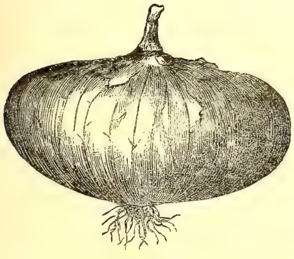
The cultivation of Onions in our Southern States increases rapidly in importance, so that they form already a profitable crop, which will soon come in active competition with the famous Bermuda Onions in our Northern markets. The climate and soil of Florida do not differ so much from those of the Bermuda Islands as not to make it highly probable that Onions can be grown here as large and good as there, or as in Mexico.

The Italian mode of cultivation consists in sowing the seed in the fall, transplanting the young bulbs about four weeks later, and wintering in the open ground, so that they may start and grow with the earliest spring. Our own cultivators have adopted a similar plan. One of the most extensive Onion-growers of Florida writes: "A rich, moist soil is best. The seed may be planted from September till last of January, but I would recommend October and November as the best time to plant, provided good, fresh seed can be secured. This, however, is the chief difficulty. The seed has to be imported yearly from the south of Europe, and, unless of best quality, will not retain its vitality more than one season, hence the almost impossibility of getting good seed early. The early planting, however, makes a firmer, more solid, and more salable bulb than the later and quicker growth. Plant in drills, six inches apart, and when of sufficient size, transplant into well-trenched ground, in rows one foot apart, four inches in row. Roll ground after planting. Keep the soil well stirred between rows, but not deep, and keep earth well away from the plants, as the bulbs should be grown above-ground.

In some of our Southern States, the Wethersfield, Danvers, and other Northern market varieties have been grown successfully, but, as a rule, the Italian kinds raised from imported seed have proved more satisfactory.

Nearly all the varieties grown in Italy, Southern France, and Algiers originated in Tripoli, North Africa, where the Onion is held in higher esteem than any other vegetable, and where it has been cultivated since the earliest periods of historical record. To this day, macaroni, bread, and Onions form the principal food of the poorer classes of Italy.

The nomenclature of the most popular varieties is mostly derived from the season of the ripening of the bulbs.



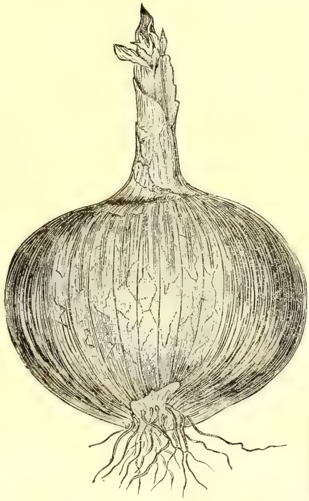
MAGGIAJOLA.

(One-half average size.)

Marzajola (March Onion) ripens earliest, is white, thin-skinned, of medium size, and valued principally for its earliness.

Maggiajola (May Onion) ripens next; also white, but larger, and used extensively for pickling.

Agostajola (August Onion) is the largest and heaviest, and varies much in shape and color. The bulbs grow to an almost incredible size, and produce three to four stalks of sometimes five to six feet in height. *Giant Rocca*, *Giant White Italian*, and *Red Tripoli*, the celebrated *Bermuda Onion*, belong to this class.



GIANT ROCCA.

(One-half average size.)

PREVENTION OF THE POTATO DISEASE.

In answer to several inquiries, we quote from Mr. Bravender's treatise, "The Potato Disease and How to Prevent it," although some of the directions may not be so applicable to our climate as to that of England.

"Secure good seed, if you can, entirely free from disease. Plant early—on light land five inches, on heavy land three inches deep—and earth up well. Have the rows from two feet eight inches to three feet apart in gardens, and three feet or more in the field for late varieties; may be rather less for others. If there is danger of frost, cover along the rows with short litter, about enough to hide the plants from view. Plant, if possible, in land not occupied by the same crop the previous year, and plant the late kinds, if possible, in a field by themselves. Use medium size sets, or cut sets, if large; place twelve to eighteen inches apart in the row, according to size. Manure in autumn and use potash salts or bone phosphate in the spring; or else make a compost of manure and earth, ashes, etc. Earth up twice. The tops may be cut off those required for seed if the tubers are large enough. Harvest late kinds sooner than is usually done. If there appears any disease amongst the crop, sorting over will be required. If you have the convenience, store your crop for a time, and not put in pits until November. On harvesting, separate the diseased from the healthy ones."

SPINACH.

For winter and spring "Greens," Spinach takes a front rank in every well-managed kitchen-garden, and, in the vicinity of large cities, it is also a profitable crop for market.

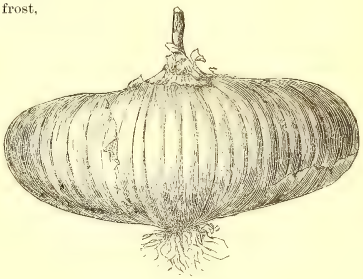
Spinach needs a deep, rich soil to produce maximum crops, for it can only be grown with profit on land that is well drained and highly manured. For a succession, the seed may be sown early in April and again in May—for the principal crop from the first to the middle of September, or late enough to become about half-grown before cold weather sets in.

A piece of land from which a summer crop has been taken is most suitable. Before sowing, the ground should be well manured, thoroughly pulverized, and the surface leveled. The rows are then marked out, twelve to fifteen inches apart, with a garden "marker," or by stretching a line, and making drills with a hoe. The seed may be sown in the garden by hand, and in the field with a seed-drill, using five or six pounds to the acre. A quarter of a pound of seed will sow enough for home use. With this, as with most other seeds, it is important to firm the soil, after covering, with a roller, or by packing with a spade or board. As soon as the plants are large enough, they should be hoed and thinned out where too thick. What is wanted for home use in midwinter should be mulched lightly with salt hay, forest leaves, or straw, to a depth of two or three inches; this is sufficient to protect the leaves from injury by frost. Or if the Spinach has grown to full size in the fall, it may be kept very well by cutting it, then placing it three or four inches thick in a frame, and covering it with a sash and a little rubbish. The covering of the open beds should not be removed before the leaves commence to grow.

The main crop is cut during April and May. When the soil is rich, and proper care has been given, a barrel of Spinach can be cut from a square rod of ground.

The *Round-leaved* is the most popular variety for home use as well as for markets. It is perfectly hardy, standing our severest winters with but little injury, and is of the best quality.

The *Prickly* or *Fall* variety is said to be more hardy than the round, although there is but little difference in this respect. It is used principally for fall sowing, but does equally well when sown in spring.



TRIPOLI.

(One-half average size.)

Savoy-leaved has a large curled or crumpled leaf like Savoy Cabbage, is very hardy, and produces a heavier crop than the other sorts. It is especially adapted for late fall sowing.

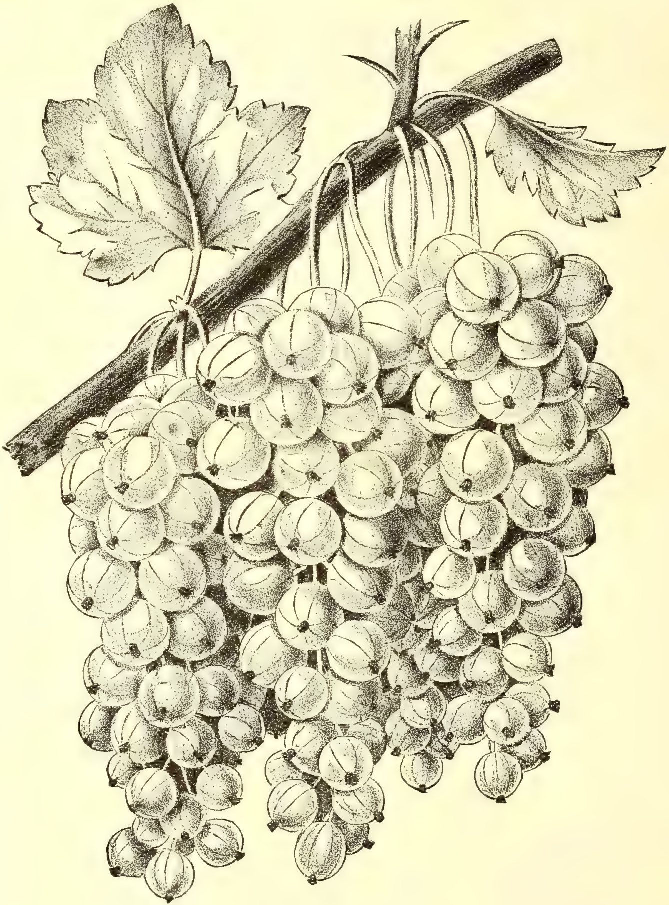
The Fruit Garden.

SEASONABLE HINTS.

Strawberries.—New beds may still be made, and on dry soil, up to the time when heavy frosts occur. Potted plants set out even at this season will produce a partial crop next June. Keep the ground clean and loose, but do not work deep near the roots. Cover lightly with straw, leaves, or any light material after the ground remains frozen in day-time. There is more danger in covering too early than too late, and too heavy than too light.

Raspberries.—Wherever the ground can be brought in proper condition, it is much better to plant during fall than spring. It is the experience of most growers that less loss results from fall than spring planting. By applying a light mulch around the newly set plants, the roots of hardy kinds do not suffer in the least, and commence to grow as soon as frost gets out of the ground.

Grapes.—Now is a good time to make visits of inquiry among your more progressive neighbors, learn what varieties they are growing, sample the fruit, observe the character of foliage and methods of cultivation. There are still too many who continue to grow Isabellas and Catawbas, which never or rarely ripen in their grounds, while others suppose that nothing better than the Concord can be grown out-of-doors. We trust that most of our readers have learned that, while the Concord is well worthy of the high estimation in which it is held, it is of short duration, and that there are better varieties that keep better, and prolong the season considerably. A succession and variety in Grapes is as desirable as in Strawberries and other fruits. Among the black varieties, *Concord, Worden, Moore's Early;* among the red, *Brighton* and *Delaware;* among the white, *Martha, Elvira, Pocklington,* succeed almost everywhere. The latter is highly spoken of, and is considered by many the most desirable White Grape for outdoor culture.



MOORE'S RUBY CURRANT.

MOORE'S RUBY CURRANT.

It is a matter of surprise that, while every year witnesses the production of an endless number of new Strawberries, Grapes, and other fruits, the Currant has received hardly any attention from our hybridizers and originators of novelties; and yet few other fruits offer so inviting a field for improvement.

Mr. Jacob Moore, the originator of the Brighton Grape, however, seems to have been aware of the possibilities of the Currant. In 1867, he raised a large number of seedlings by crossing of the best-known varieties. After several years' trial and careful selection, the variety represented in the accompanying illustration was selected as the best, and appropriately named "Moore's Ruby."

Not having grown it ourselves we cannot give a more accurate description than by quoting from a letter of Mr. C. M. Hooker, the well-known nurseryman: "The 'Moore's Ruby' Currant was originated by Mr. J. Moore, from seed obtained by crossing the Cherry and White Grape, and shows very clearly traits of both parents. It is of fairly vigorous growth, producing shoots longer than the Cherry and heavier than the White Grape. Foliage as free from disease as that of any variety that I know of. It has fruited with me for five years without extra fertilizing or cultivation, and has always been well loaded with handsome, long clusters of fruit, with the exception of one year, when a late frost injured the crop.

"The fruit is of large size, next to the Cherry and La Versaillaise in that respect, borne on much larger stems and more abundantly than with the varieties named. The color of the fruit is a beautiful bright red, not quite so dark as the Cherry; ripens at nearly the same time; the flavor a very agreeable mild acid, somewhat similar to the White Grape, and fully equal to that of any variety with which I am acquainted. From what I have seen of it, I think it a great acquisition—the best Currant I know of for family use, and I see no reason why it may not also prove the best for the market." A Currant combining so many desirable qualities cannot fail to become popular as soon as it becomes known. We are informed that no plants will be offered for sale before next fall.

HARDY RASPBERRIES.

The hardiness of Raspberries is a somewhat mooted question, but so much seems well established, that the amount of cold which the canes can withstand depends mainly upon the degree of ripeness of the wood. While a fully ripened cane may survive almost any possible degree of cold, an immature one may be killed by a few degrees below freezing point. Many varieties which we are in the habit of calling "perfectly hardy" were killed last winter by the unusual earliness—before the plants had ripened their wood—not by the intensity of cold. "Turner," "Brandywine," and even wild kinds, were killed down to within a few inches of the ground, while the same degree of cold, if it had occurred a few weeks later, would not have injured them in the least.

PRUNING GRAPE VINES.

THE KNIFFIN SYSTEM.

Probably there is no one thing in connection with growing Grapes that is so little understood, or on which there is a wider diversity of opinions and practice, than in pruning the vines.

These various systems and methods, and the often ambiguous language employed in describing them, even with illustrations, are apt to confuse the ordinary mind so that, after perusal, the reader has no definite or intelligent idea of how to proceed to bring about a desired result.

I once heard a very intelligent gentleman, a president of a large financial institution in the city, though living in the country, say that he had read all the standard works on Grape-growing, and most of the current literature on the subject as it appeared from time to time in the papers, and yet he did not feel competent to prune his own vines, but always employed some one to do it.

As a rule, I think the great majority who trim Grape-vines leave too much wood. I have come to this conclusion from seeing a good deal of work done by professional (!) gardeners. The vines are overtaxed in bearing, or attempting more than they can accomplish. The clusters become smaller, the fruit rots, the vine is enfeebled and exhausted, and "Grapes do not amount to much." Of course, where shade is the permanent object, the trimming will not need to be so close as where fine fruit is most desirable, and for the former purpose such strong-growing varieties as Clinton, Concord, Elvira, etc., should be employed. Hence the difficulty of laying down any fixed rules to suit all cases.

If Mr. Brown wants a large crop of fruit for his own consumption, it is not a matter of much importance to him whether the clusters are large and handsome or not, if there is only an abundance of them; while to Mr. Jones, wanting his crop for sale, large, perfect clusters are of the utmost importance, and 200 pounds of such fruit would be worth more to him than 300 pounds of Mr. Brown's would, and the method of pruning may be the sole cause of the difference. Fall pruning is often recommended by writers on the subject, and is one of those operations in the garden that can be done to forward spring work, as there is generally plenty of time that can be spared for this purpose during favorable fall weather, while, if deferred till February, the usual time, cold, stormy weather, or other contingencies, may arise to make the work tedious and disagreeable, if not prevent it altogether till late in spring, when other work is pressing.

I once knew a city gentleman who always made it a practice to trim his vines on Thanksgiving day, unless stormy weather prevented.

By this time the wood is ripened, and the foliage has accomplished its mission. The advocates of fall pruning I believe almost invariably recommend to leave more buds than in winter pruning, especially if the vines are to be removed from the trellis and laid down, for the purpose of guarding against the loss of any buds that might occur in handling. In such cases, another pruning or rubbing off of the surplus buds, in spring, will be necessary.

In large vineyards, winter pruning is generally preferred, as it can be done at a season of comparative leisure. The time required to do it in the fall would materially interfere with other work; but if the wood is to be used for propagation, fall pruning is best.

The "Kniffin" system, now so generally practiced in the Hudson River Grape region, is the easiest, simplest, and cheapest of any I have yet seen, and has become so popular there that hundreds and thousands of acres have been changed from the "Fuller" and other methods to this.

Two wires only are used, three and a half and six feet from the ground respectively. Each vine has four arms, eighteen to twenty inches long, or about five buds on each, two arms on each wire, which are renewed every year by removing each arm up to the shoot nearest the trunk of the vine, cutting those off to five buds, and tying them down in place of the arms removed.

A vine thus pruned resembles somewhat two T's, one above the other. The buds from these arms are allowed to grow and care for themselves generally, and, with a little labor and attention,—by stopping the laterals at one leaf and removing the fruit from the bud intended for next year's arm, if it should prove too weak to carry it and make sufficient growth at the same time,—they can almost invariably be depended on. Aside from the simplicity, saving of labor, and economy of wire in the trellis, it has the advantage that the lowest fruit is far enough from the ground to keep it clean, and with moderate stooping one can pass from one trellis to another without being compelled to go to the end of one, as is the case when four or more wires are used. The summer pruning consists in nothing more than clipping off the ends of some shoots that may chance to grow too rampant.

This, like any other system, is subject to modifications, one of which is to have but two arms to the vine, each three feet long, and have each alternate vine take the upper wire, the others the lower one.

It is frequently recommended, and sometimes practiced by those who know no better, to cut away the vines or remove the leaves to let in the sunshine to ripen the fruit. I hope no reader of The American Garden will listen to or practice any such nonsense as that.

The effect of the sunshine on the fruit is through the leaves and roots, by warming the ground. The fruit could better dispense with the sunshine than with the leaves, as they bear the same relation to the fruit that our lungs do to our body.

Reader, plant a few more vines!

Preserving Fruits.—In shipping Peaches, Grapes, Plums, and other fresh fruits from California to the East, carbonized or charred wheat bran has recently been used as packing material. The results, so far, have been so satisfactory as to make it probable that fruit packed in this manner can be sent across the continent as slow freight at a saving of six hundred dollars per car-load in freight charges, and also to make it possible to export most of our perishable fruits.

Fruit Trees.—Fall-planted trees must be well staked, to prevent the winds from disturbing their roots, and care must be taken that water does not stand near them.

THE QUINCE.

Since the canning of fruit has become so simple, cheap, and easy, the question naturally arises, what shall we use for a family supply? In answer, we reply that in our own family the Peach and Quince hold important places, and are regarded as indispensable. We feel very much in regard to the Quince as the old farmer did about his boiled Indian pudding—"wanted three hundred and sixty-five in a year." Few will ever tire of good canned Quince; hence its culture is of importance.

Varieties.—The *Apple* or *Orange* Quince is the best in texture and quality, but the *Pear* is a healthier grower and more productive, ripening also later. The new variety, *Champion*, is more vigorous and productive than either, and is also an excellent keeper. A good plantation of Quinces should embrace all three varieties.

Soil and Location.—Almost any good soil will produce Quinces; a dry, sandy soil is the least favorable, a strong, moist loam, well drained, the best.

A peaty soil, on the margin of a free-running stream, almost always produces good Quinces in abundance.

Culture.—Shallow culture only should be given, as the Quince throws its roots near the surface. The best Quince orchard I have seen is where the owner resorts to mulching rather than culture. Sufficient manure should be applied annually.

Enemies.—The borer, the same which attacks the Apple trees, is the worst enemy of the Quince. The best remedy is a pint of soft soap mixed with one gallon of lime wash (common whitewash), which, when thoroughly applied from the base of the tree up eighteen inches, early in May each year, will save your trees from subsequent attacks of the borer.

Continual intelligent care will be followed by success in nine cases out of ten.

Keeping Grapes.—The proper picking of the Grapes is an important matter. The use of the grape-scissors avoids handling the berries, which removes the bloom and injures the sale of the fruit. It is useless to try and keep the thin-skinned varieties, like the Concord, for any great length of time. Those varieties with thick skins, of which the Catawba, Isabella, Iona, and Diana are good examples, may be kept well into the winter if the fruit is picked with care, placed in trays, and left in a cool room for a few days, that the skin may toughen before being closely packed in the boxes. Keep the boxes in a dry, cool place.

Orchard Planting.—In planting orchards for market, the most frequent mistake is the setting out of too many varieties. A hundred barrels of one good sort sell readier and at a higher price than if made up of half a dozen or more kinds. After you have convinced yourself of the variety best suited for your soil and locality, plant all of one or two kinds only. Baldwin, Rhode Island Greening, Red Astrachan, Northern Spy, Tompkins County King, and, in some localities, Ben Davis, Russets, and Newtown Pippin are the best market Apples. Bartlett, Seckel, Duchesse d'Angouleme, Beurre d'Anjou, Lawrence, Winter Nellis, are among the most desirable market Pears.

The Flower Garden.

IN MY GARDEN.

A Rose blooms by the garden wall
Near crimson Asters for the fall,
And, clust'ring close, a creeper hides
All of the cottage but the sides.

A waving Lilac's sweet perfume
With fragrance floods the open room;
A mat of Pinks beside the walk
Is guarded by a Hollyhock.

A bed of Lilies next I tell—
A Valley-Lily's drooping bell—
A Tiger, with its gorgeous spots,
Shadowing sweet Forget-me-nots.

A Tulip on its slender stem,
Like to a glowing warm-hued gem,
In varied colors gay arrayed,
Here by the breeze is gently swayed.

A stretch of grass that waves along
With murmured rustlings, as in song;
It falls and rises, like the sea,
In billows even, smooth, and free.

A branching, fragrant Apple-tree
With pink-stained petals strews the lea;
The robin red-breasts flutter 'round
And fill the air with joyous sound.

A spreading Locust near I see,
And 'neath this white-bloomed, leafy tree,
A hundred little blossoms start
To flower and smile with golden heart

And then, alas! to droop and fade;
Else, by the sickle or the spade,
Unthought of, be cut down and die,
Breathing their perfume like a sigh.

I contemplate my garden fair,
  For it is lovely—all my own—
And think how strange the sun-fraught air
  Has every moment brighter grown.

These silent flowers have taught to me
  A blessed lesson of content,
And to the darkest hours that be
  A little grateful pleasure lent.

ROBIN HOOD.

SEASONABLE HINTS.

Gladiolus bulbs are not injured by light frosts, and need not be taken up before frosts have killed their flower-stalks and leaves. In lifting them, it is best not to cut off the leaves, but to tie, with the bulbs attached, in small bundles, and hang them up in a sheltered place for drying. After they are thoroughly dried, the stalks should be cut off to within about one inch of the bulb, the roots and bulblets removed, the bulbs put in paper bags and preserved in a closet or cellar where there is no danger of freezing. Large quantities keep well in barrels with dry sawdust or sand sprinkled between them.

Tuberoses, *Tigridias*, *Colocasias*, and other tender bulbs require thorough drying before storing, and must be kept in a dry place where the temperature never falls below forty degrees. A much higher temperature, even, does not injure them, but there are few cellars dry enough to keep this class of bulbs in good condition.

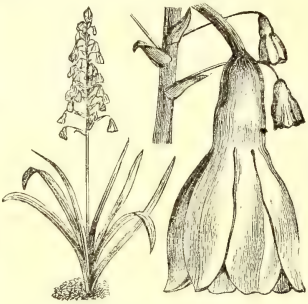
Perennials.—The various beautiful kinds of *Iris*, *Pæonies*, *Phlox*, *Potentillas*, *Spiræas*, *Delphiniums*, *Aquilegias*, *Violets*, etc., may all be divided and replanted now while the ground is in good order, and more leisure can be devoted to the work than in spring.

Seeds of many *Annuals* may be saved, so that you may be sure to have fresh seed next spring.

HYACINTHUS CANDICANS.

This beautiful plant is a native of the Cape of Good Hope, the home of so many fine bulbs. It was originally known as *Galtonia*, but as it properly belongs to the genus *Hyacinthus*, it has lately been rechristened. It became first known here during the Centennial Exhibition, through Messrs. Krelage, of Holland, who planted a bed of them in the Horticultural Grounds.

The plant has proved to be perfectly hardy, having lived safely in the open ground through our last severe winter. Its growth is robust, with fine symmetrical leaves, much like those of some Yuccas; in fact, the plant appears very much like *Yucca baccata* before blooming. The flowers are white, in handsome pendulous bells, arranged on graceful pyramidal spikes, reaching the height of five feet and more on strong plants. The number of flowers has been stated to be from twenty-five to forty, but we saw a plant this year that had sixty-two flowers on one spike, and two smaller spikes on the same plant, with upward of thirty flowers. The bulb in appearance is something like the *Polyanthus Narcissus*, and nearly of the same size. Whether planted in groups of from three to seven, or singly, the effect is very graceful and imposing. The spikes, when cut and placed in water, continue to bloom for some time, equal to *Gladiolus*, and with the addition of a few Fern fronds, we know of nothing more effective.



HYACINTHUS CANDICANS.

The cultivation is of the easiest description; with plenty of room for development, it will thrive in any good, rich garden soil, requiring no more care than Tulips.

TUBEROSES.—Through one of the many erroneous items which make the rounds of a certain class of horticultural publications, we are informed that "the Tuberose bulbs are imported from Italy, where they are better ripened and more generally healthy than those raised in this country." The fact is quite the reverse. The Tuberose bulbs grown in our Southern States, and even as far north as Philadelphia and New York, are far superior to those from Italy, and many hundreds of thousands of American bulbs are annually exported to all parts of Europe.

WINTER PROTECTION.—Most hardy bulbs and herbaceous plants, although they may survive the severest winters, are benefited by a light covering of leaves or straw. The roots, if so protected, start earlier in spring, and make more vigorous growth.

HARDY LILIES.

Tiger Lilies are common all over the country. *Speciosums*, too, are popular; in the East, the common white and trumpet Lilies occur quite frequently, and occasionally we find some other sorts in suburban and country gardens, and now and then creditable collections of many sorts. But, notwithstanding what favorites Lilies are with all who know them, it is astonishing how little they are known and grown, more especially in the Western States. And, to a great extent, this is inexcusable. Our woods and meadows teem with Lilies; yet, because they are not lauded exotics, or for laziness' sake, or some other to me unknown cause, they are carelessly passed by, and heaps of money paid for plants by far less decorative. What Lily on earth can supersede in handsome show *superbum*, our common swamp Lily? A month ago, in Prof. Sargent's garden at Brookline, planted in a hardy Azalea bed by a pond-side, these Lilies by the hundred soared aloft nine to ten feet high, with thirty-five to fifty blossoms on a stem, and whose roots, but two or three years ago, were gathered from the neighboring swamps. Nor is this the strained effort of a single year, for it is with them as it is with most other Lilies; they should permanently remain unmoved—it is their nature to—and whatever stimulants they need be given from above.

But there seems to be a prejudice against red or orange-colored Lilies, perhaps because of our wild species and the commonness of the Tiger Lilies, and a popular taste for white Lilies. But those who would debar the reds surely know nothing of the fiery brilliance of the Siberian *tenuifolium* or the Chinese *concolor*.

CLASSIFICATION.

The following are good, serviceable Lilies, showy, pretty, not over-expensive, easy to grow, and hardy. I have avoided the uncertain Californians and some new and exceedingly handsome ones from India and China, because old and tried sorts are, to beginners at least, the most to be recommended.

White Lilies.— *Candidum* (our common white Lily), and its varieties; *speciosum album* and *præcox; longiflorum*, and its varieties *eximium*, *Takesimæ* and *Wilsoni* (I would like to add *Harrisi* for trial's sake, as I have heard it well spoken of, and it is of American raising); all the white varieties of *speciosum;* the white *martagon* and *auratum*, the golden-banded Lily, though fickle and short-lived in some soils, is too peerless a gem to be left out of any collection.

Yellow Lilies.—*Canadense* (common wild meadow Lily), *albanium*, *parvum* (the most reliable of the Californians), *Parryi*, *pyrenaicum major*, *monodelphum*, *m. Szovitzianum*, *Hansoni* (rather dear yet), and *testaceum* (the Nankeen Lily).

Orange Lilies.—*Croceum*, *elegans Wilsoni* (all of the *elegans* group are very fine), *Canadense rubrum* (red variety of our wild Lily), and *superbum* (our common swamp Lily).

Orange Scarlet.—*Carniolicum* and *tigrinum splendens.*

Red Lilies.—The many forms of *speciosum*, as *rubrum* and *roseum*, and their varieties.

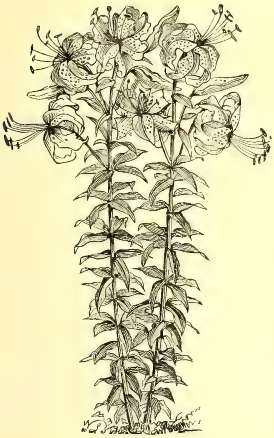
Crimson Lilies.—*Davuricum incomparabile*, *martagon*, *dalmaticum*, *bulbiferum*, and its variety *umbellatum.*

Fiery Scarlet Lilies.—*Concolor*, *chalcedonicum*, *pulchellum*, and *tenuifolium.*

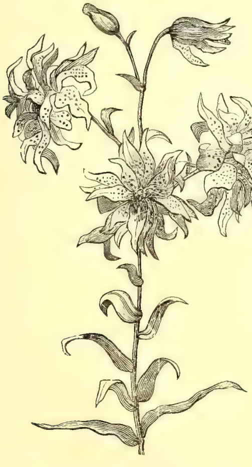
There are double-flowering forms of some Lilies; for instance, of the tiger and *martagon;* some, as our common white Lily, have variegated leaves, and many, as the common white, *testaceum, Parryi pomponium,* and *albanium,* are sweetly fragrant.

SEASONS OF FLOWERING.

Lilies may be had in bloom from June till September. Among the earlier sorts are *tenuifolium, colchicum, davuricum, Szovitzianum, albanium, croceum, chalcedonicum, Thunbergianum, pulchellum, martagon,* and *parvum.* These are soon followed by *elegans* and its varieties, the Canada Lilies, and the common white Lilies; these are succeeded by *Parryi,* the white trumpet Lilies, and our swamp Lilies *(superbum);* and to bring up the rear are the different kinds of tiger Lilies and the lovely *speciosums,* that bloom in August and September. Lilies do not maintain an unbroken sequence; that is, those that were the earliest in bloom last year were third and fourth this year. Strong bulbs bloom earlier than weakly ones, but the bulbs that were the strongest and flowered the best this year may not yield the strongest plants for next year. Especially is this the case if seed is allowed to ripen.



LILIUM SPECIOSUM.



LILIUM TIGRINUM, DOUBLE.

CULTIVATION.

Plant ordinary Lilies some six or eight inches deep, and Californian ones about twelve inches. *Candidum* bulbs should be planted in July and August, most other kinds from the time they have done blooming till just before they begin to grow again. Once planted, Lilies should remain for years undisturbed, as they become stronger in consequence; but should they begin to get overcrowded, better lift, divide, and replant them. Lilies of the *longiflorum* section, that bear so many bulbs on their stems in the ground, need lifting and dividing once in a few years. We cannot expect Lilies to bloom as well the next season after planting as they will when established for a few years.

Lilies will grow in any good garden soil that is well drained, but prefer a rich, friable loam. Many do well in a peaty compost, but, apart from our yellow Canada and swamp Lily, few thrive in a mucky soil. Our common wood Lily *(Philadelphicum)* prefers an open situation and a dry, sandy soil. Black, waxy land is not so good for Lilies as that which is less consistent, but its nature may be favorably ameliorated by a liberal admixture of sand or other rough material, a heavy summer mulching of grass, litter, half-decayed leaves, or a mat of other plants as Petunias or Verbenas, or a thicket of dwarf bushes, as Deutzias. Light, sandy soils are much benefited by heavy additions of thoroughly rotted manure or leaf soil, but this should not be introduced so deeply as to touch the bulbs; better fork it in lightly.

The common white Lily, trumpet Lilies, *speciosum* and its varieties, and several others, thrive luxuriantly in open, unshaded positions in our gardens; but mostly all Lilies prefer shelter and faint shade, as that afforded by being planted at the north or west side of a fence, hedge, shrubbery, or tree-clump, but they dislike the overhead shade of and drip from trees. Lilies that thrive apace in the garden border when thickly associated with other plants may refuse to do well if isolated—they have such an aversion to a naked and parching surface soil. But, although Lilies prefer a cool, moist, and shaded soil in summer, they love to lift their heads above the bushes and the plants around them, and blossom unrestrained.

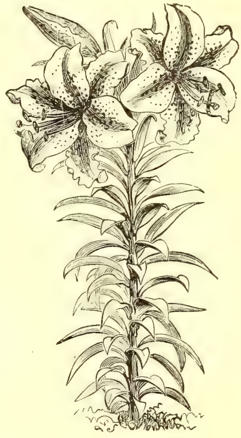
DUTCH BULBS.

Under this name are comprised nearly all our most beautiful spring flowers, *Hyacinths, Tulips, Crocus, Narcissus, Snowdrops,* etc. To the genuine lover of flowers, these harbingers of spring are indispensable, and when it is considered how easily and cheaply their brilliancy and fragrance may be secured with the coming of the first warming rays of spring, it is surprising that their cultivation is not more general.

By planting at different times, a succession of flowers may be had during the entire winter in the parlor or window garden, and in the open ground, often before snow has disappeared from the surface, till the middle of May.

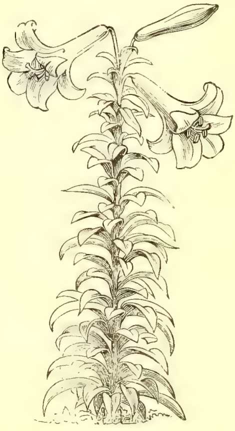
Any good garden soil is suitable for growing bulbs; but to obtain the best results, the beds should be well drained, the ground dug over to a depth of two feet, and, if necessary, enough sand, muck, and well decayed manure added to produce a rich, light, friable loam.

The bulbs may be planted at any time from the middle of September till the freezing of the ground, choosing a dry day when the ground is not heavy and cloggy. Hyacinths should be planted so that the crowns are four to five inches below the surface; Tulips and Narcissus three to four; Crocus and other small bulbs two to three inches. A light covering during winter is beneficial.



LILIUM AURATUM.

When grown in pots for winter blooming, a rich light soil is necessary. The bulbs are planted so that the crowns are level with the surface. The pots are then placed on a porous bed, and all is covered with six inches of soil. Roots will soon commence to form, and in about two months the pots may be removed to a warmer place for forcing.



LILIUM LONGIFLORUM.

Lawn and Landscape.

AN IDEAL LAWN.

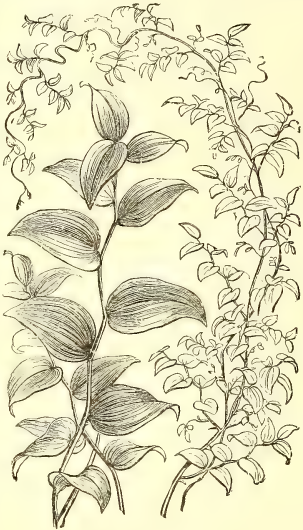
A simple cottage, low, rambling, and picturesque, inclosed by boundaries of shrubbery on every side. Fifty feet east and west extend the side lawns, and down to the north slopes gradually the main street of turf, till it ends at the winding banks of a clear and rapid stream. A part of the bank is somewhat marshy, and here the opportunity has been taken to plant sundry interesting herbaceous plants or wild flowers that affect such spots. Willows of various kinds droop over the water, and birches strike vigorous roots into moist and congenial soil. Alders wave and Cypresses stand elegant and tall in similar spots, until we come to solid, dry land in the north-west corner. Here are masses of Norway Spruces, alternated with Pines, and here and there an Austrian Pine. This evergreen grouping extends nearly up to the house. The shelter thus afforded is, therefore, most complete, forming shelter and background alike. This portion of the framework of the picture also serves to bring out harmoniously and effectively sundry beautiful groups and single specimens of the finer evergreens. As we approach the house, these evergreens become smaller and more dwarf, until, immediately about the building, we find plants that grow only two feet, perhaps, in ten or fifteen years.

Back of the house and on the sides grow deciduous shrubs, large and effective, bordering the entire remaining portion of the domain. These are varied, at intervals, by the loftier heads of deciduous trees,—Maples, Elms, and the like,—the trunks of which are entirely hidden by the thickly and naturally disposed shrubbery. On the corners, especially, are planted large Elms, intended to mark and define more completely the boundaries of the lawn. Just within the inclosure grow a few choice, medium-sized trees, standing isolated, as it were, but everywhere else we meet mere shrubs or dwarf trees. As a rule, moreover, we find evergreens and deciduous plants each grouped by themselves.

Yet, with all this variety of trees, the lawn proper, or greensward, remains very prominent, its broad, well-cultured stretches being, on the whole, the most noteworthy part of the design.

Streams, borders of foliage, statuesque small trees and larger specimens, all flow, as it were, together in natural lines. Indeed, harmony of color and lines, combined with contrasts distinct enough to give variety, characterize the entire scene. The position of each plant is so related to the other, for purposes of beauty and perfect development, that one delights in the fair proportion and entire unity of the design. It is a picture, and yet something more than a picture: a combination of foliage and grass constructed not in servile imitation of Nature, but on the principles employed by Nature in her most pleasing work. The copse or glade is suggested, and yet the treatment of each plant of our lawn is very different from that of the wildwood, and, indeed, more honorable to that plant's highly cultured nature. Perfect maintenance, exquisite keeping are evident everywhere, from the skillfully pruned shrub to the velvet turf that catches athwart its beautiful surface the level rays of the setting sun.

Unfortunately, such lawns are extremely rare in America. We are learning to appreciate them, and in time will have them, though the progress in that direction is slow; and I feel certain that nothing is more likely to aid in the development of a true knowledge of the resources of lawn planting, than the consideration of hardy ornamental trees and shrubs.



SMILAX.
(Myrsiphyllum asparagoides.)

ROCKERIES.

In constructing Rockeries, we should endeavor to imitate Nature as closely as possible under existing conditions. A rockery, to be effective and pleasing, must be adapted to and in keeping with the surroundings. Hardly anything is more objectionable in a lawn, and offends the eye more, than an inappropriately located rockery. On the other hand, such a structure, properly situated, skillfully built, and tastefully planted, imparts to its surroundings a quiet, natural charm which cannot be produced with trees and groups of plants alone.

A common mistake in building rockeries is to make the center of rocks. Plants cannot grow in stones. These should form only the outward lining to the soil which constitutes the body of the work, and should be placed upright, so as to leave enough space between them for the plants to grow and develop.

The proper selection of suitable plants is of equal importance, and no better guidance can be obtained in this matter than by studying and observing the plants which grow in our woods under similar conditions. Most charming rockeries may be made of native Ferns alone.

HYDRANGEA PANICULATA.—This magnificent fall-flowering shrub, although introduced several years ago, is as yet not as well known as it deserves. It is as hardy as the Weigelia, and flowers long after the showy spring-flowering shrubs have ceased blooming. Nothing can equal the grand effect of such a group on a velvety lawn, when seen from a short distance.

The Window Garden
AND GREENHOUSE.

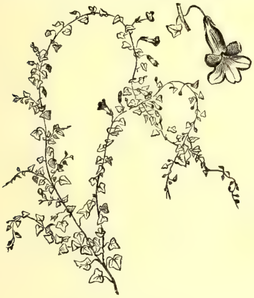
CLIMBERS FOR THE HOUSE.

To select, from the rather extensive list of greenhouse climbers, a few that are adapted for cultivation in the window garden is to the amateur a rather bewildering affair, for upon examination of the catalogues of our florists he finds them all described as "indispensable," "most elegant," and "should be found in all collections"; and in his anxiety to select what he considers the best, he often selects those that are ill adapted for his purpose. Nor can he blame the florists for all this, for most if not all the climbers are, when grown in a soil, temperature, and situation adapted to their particular needs, truly beautiful, and deserve all that can be said in their praise.

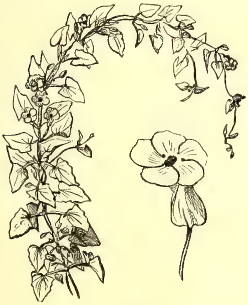
In the greenhouse or conservatory, climbing plants are indispensable, and no plant-house would be considered complete unless it contained a selection of climbers. Now I claim that no window garden should be considered complete unless it contains a few climbing plants. In order to obtain success, it is necessary that the plants selected should be of easy culture, and adapted to stand occasional sudden changes of temperature, and also those plants should be chosen that are not liable to become infested with insects.

In selecting climbers for the window garden, we should be guided somewhat by the situation of the window and its exposure, for if the window has a northern or eastern exposure, it is not at all probable that the plants would produce many flowers. For such situations the Smilax, *Myrsiphyllum asparagoides*, with its rich, wavy, glossy foliage, and the Japanese Climbing Fern, *Lygodium scandens*, a beautiful Fern, of graceful twining habit, are well adapted, and especially the English Ivy, *Hedera Helix*, with its prettily veined, medium-sized leaves, and the strong-growing Irish Ivy, *Hedera Hibernica*. If we desire some plants with variegated foliage, we have the silver-margined Ivy, *Hedera marginata argentea variegata*, the foliage of which is margined with white; the golden-spotted Ivy, *H. marmorata elegans*, whose foliage is neatly and prettily spotted with yellow; *H. Canariensis marmorata*, with large foliage, marbled with white, and *H. aurea*, with bright green foliage, which merges into a golden hue. *Cobaea scandens*, and *Pilogyne suavis*, a rapid-growing climber, with small glossy green leaves and fragrant yellowish-white flowers, will also do well, but, unfortunately, will not produce as many flowers as if grown in a sunny situation.

For a window with a sunny exposure, we may select, in addition to those above mentioned, *Maurandya Barclayana*, and its blue, white, and rose-colored varieties; *Lophospermum Hendersonii*, with its large, handsome, rosy carmine flowers. *Tropæolum Lobbianum*, and its varieties, and T. Lobbianum Spitfire, with its fiery red flowers, will be found indispensable. The German Ivy, *Senecio scandens*, is a rapid-growing climbing plant, with yellow flowers and glossy green leaves, and the new variety, *Senecio macroglossis*, are both very desirable plants for the window garden. In a room where an average temperature of fifty-five is maintained, the Wax-plant, *Hoya carnosa*, will thrive splendidly. It does not require much moisture, but it loves heat, and produces its wax-like, cream-colored flowers in large clusters, year after year, from the same flower-stalks. The leaves are of a dark green color, and the flowers are deliciously fragrant. The Catalonian Jessamine, *Jasminum grandiflorum*, with pure white, deliciously scented flowers, and *Abutilon Mesopotamicum*, with scarlet and yellow flowers, can also, with a little care and attention, be so trained as to cover a considerable space in the window garden, and will be found to answer for many purposes all the desirable qualities of a climbing plant. Several other climbing plants may be grown with success in the window garden, by those who have had some experience in plant cultivation, but as this is written for amateurs mainly, it is best not to enlarge the list at present. Strong and healthy plants of all the varieties named can be easily and cheaply obtained, and, with the exception of the Wax-plant, all thrive in ordinary potting soil—that is, a compost of one-third well-rotted manure and two-thirds well-rotted sods, all well mixed.



MAURANDYA BARCLAYANA.



THUNBERGIA.

For the Hoya, add a good portion of charcoal, broken fine, to the above mixture.

In potting, do not use glazed or hard-baked pots; use porous pots by all means, and in all pots over five inches in diameter place an inch of broken charcoal or potsherds, over this a thin layer of moss, so that the water can escape freely. Water should be applied as often as the plants require it, and once a week they should be given a watering of liquid-manure water. This is prepared by dissolving one-quarter of a pound of guano in five gallons of water, in which proportion it will be found sufficiently strong.

Excepting in cold, dull, or wet weather, the plants should be sprinkled daily with an atomizer; and if any insects make their appearance, destroy them at once.

Air should never be given so as to produce a direct current upon the plants. A temperature of from fifty to fifty-five degrees at night, and from ten to fifteen degrees higher during the day-time, will be found most suitable for a general collection of house plants.

CARE OF HOUSE PLANTS.

Bouvardias, Heliotropes, Poinsettias, Begonias, and other tender plants that feel the cold first, have, ere this, been placed either under temporary shelter in cool weather, or removed permanently to their winter-quarters. Those that require potting or repotting should have immediate attention, and the drainage of pots should always be examined on removal from the outside. Plants infested with worms should have a thorough watering of weak *clear* lime-water—two ounces of lime to a gallon of water is, after being allowed to settle, strong enough. Most plants are benefited by lime-water—the most patent exceptions are Azalias, Rhododendrons, and Ericaceæ generally. Tie and stake neatly all plants that require such treatment. The more hardy greenhouse plants, such as Geraniums, Azaleas, Camellias, Carnations, etc., may stand outside until the end of September; but it is always best to be on the safe side, and plants suffer less from being too hot than too cold.

Seed Sowing.—Many seeds for winter and spring can be sown at once in the greenhouse and window, such as Mignonette, Primulas, Cinerarias, Calceolarias, Sweet Alyssum, Nemophila, Geraniums, Smilax, and any of the pretty early-flowering annuals.

Bulbs for winter flowering should be potted at once, Hyacinths first, as they evaporate quicker than the harder and closer-formed bulbs.

Pot firmly in good soil, bury in ashes, covering the pots from six to eight inches deep with ashes or sand for six to eight weeks before taking inside; other bulbs, such as Tulips, Crocus, Snowdrops, Narcissus, and Lilies, do not require to be buried so deeply. Bulbs intended for cultivation in water should be placed in glasses at once, and put in *a cold, dark cellar* for two months at least. If the temperature should get as low as forty degrees, or even thirty-five, there is no fear of damage.

BLEEDING HEART.

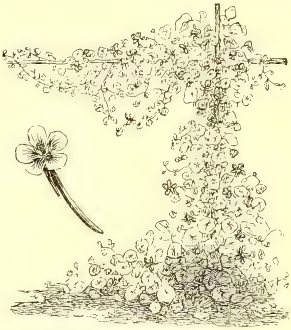
(Dicentra spectabilis.)

This charming plant, although of comparatively recent introduction, has rapidly found its way into almost every garden, and is prized as one of the most beautiful spring flowers; as a house plant, however, it is not so generally known as it deserves. For this purpose the roots should be taken up during autumn, divided, and planted in ordinary potting soil. The potting of those intended for early flowering should not be delayed till late in the fall, as the roots should have made a good start before being forced. At the approach of severe cold, the pots have to be removed to a cellar and watered when dry. Some may be placed in a room at once, or as soon as fires are kept up, and by adding others at intervals of a few weeks, a continuous bloom may be secured during the entire winter.

MOSS MULCHING.

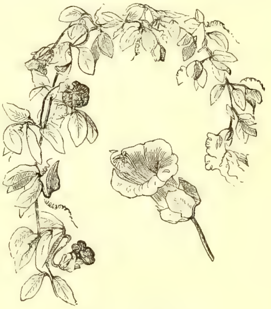
This comparatively new feature in the culture of greenhouse and window plants has given very satisfactory results during last winter, and will recommend itself as worthy of adoption by all growing plants in the greenhouse or dwelling. Wherever a collection of plants is grown, however small the number, it may be used with advantage.

As the pots containing the plants are arranged on the benches or stands, the spaces between them are filled with moss to about half an inch above the rim of the pots. This prevents the rapid drying of the soil from evaporation or from the glare of the sun against the pots, and creates a moist atmosphere about the plant, which, in dry, heated rooms, is an important matter in cultivating plants. This lack of moist air is the greatest source of failure in window gardening.



TROPÆOLUM LOBBIANUM.

Plants grown by this system require less frequent applications of water, thus causing a saving of time and labor. Besides, the fertility of the soil is not washed away by constant dribblings of water, and does not become soggy or sour. I would not recommend mixing any fertilizer with the moss, as it draws the young roots from the soil, and they spread in every direction through the moss, and when the plants have to be moved, these roots become disturbed and broken, resulting in injury to the plant. The fertilizer had better be given in solution to the plants when required.



COBÆA SCANDENS.

In addition to these advantages, the moss, by covering unsightly pots, gives a neat appearance to the plants, making them appear more like a natural group in the midst of a velvety lawn than like stiff pot-plants.

Foreign Gardening.

AN ORCHID HOUSE IN THE TROPICS.

And is a house necessary for Orchids in the Tropics? some reader will exclaim. Certainly not such a one as colder climates require; no glass roof is needed; no grim rows of iron pipes, and, better still, no coal bill, with items in three figures, the payment of which greatly reduces the bank balance. All manuals of Orchid culture tell us, and rightly, that to grow Orchids in perfection one needs three houses—the cool, or Mexican, the intermediate, and the Indian; and a mode of culture relatively the same is necessary in our Orchid culture under the equator. But the roof of our houses is the sky or the broad foliage of some thickly leaved tree, and the sun gives us all necessary warmth, and the frequent showers a large proportion of the necessary moisture. We have our three houses, the first in the branches of some large clumps of Orange and Mango trees; the second along a broad palisade which separates the garden from the orchard; and the third the broad veranda which runs in front of the L of the house, this latter being also the exhibition room.

It is wonderful how the plants grow. A dry, dead-looking pseudo bulb wired on to an Orange-tree branch in a few weeks puts forth strong, healthy roots, which clasp around the bark so firmly that they cannot be detached, and great plump shoots develop, giving promise of abundant flowers.

This is particularly the case with *Cattleya superba* and the species of *Coryanthes*, all plants of somewhat difficult culture. We have to bear in mind that the situations in which Orchids thrive are almost as various as the plants themselves. Some need much shade and moisture; some shade, but rather a dry atmosphere; others much sun; and we have one Orchid, an *Epidendrum*, for the culture of which, if we were asked to direct, we should say, "grow it on a red-hot stove-pipe," for it is always found on the topmost branches of tall trees, fully exposed to the sun.

A pure, sweet atmosphere is essential to Orchid growth, and this we have in perfection, for the cool breeze constantly blows under the trees and along the piazza, and we never have the intense heat which often prevails in the summer in the United States. There are no sultry nights, and no malaria poisons the atmosphere. So only last night we were sitting until late on the veranda, the moonlight so bright one could easily read fine print, and the air full of the fragrance of the Orchid blossoms. Moonlight under the trees is the time also to fully appreciate the beauty of some Orchid flowers. Around Para, *Stanhopea eburnea* is very plentiful, and great masses of it, set in the forks of the trees, produce freely their large white flowers; these, seen by moonlight, as they hang from the dark masses of foliage, seem double their real size and are exquisitely beautiful.

The treatment of our Orchids is very simple. Those on the trees require absolutely no care after having been tightly wired on to a branch, or into a fork of the tree. The roots soon cover the trunk, derive sufficient moisture from the air and bark, and grow and flower freely. We have some large Orange trees of which trunk and branches are wholly covered with Orchids of many different species, and there is seldom a day when something is not in bloom.

The Orchids on the palisade are all on blocks, and must be dipped every morning when there has not been a shower the previous night. With this treatment they do well, develop fine, healthy roots and growth, and although this culture has had as yet only four months' trial, some have bloomed finely. In the veranda, the Orchids hang all around, upon blocks or in baskets made by cutting a cocoa-nut, husk and all, in two transversely. They are exposed to the full sun from its rising until nearly noon, to wind and rain. Yet they thrive wonderfully, being dipped every morning very early if they are too dry.

On the broad shelf of a balcony which runs around the veranda are pans of *Cypripedia* and *Galeandra Devoniana*, the latter a tall-growing plant with graceful reedy foliage, each stalk of which bears from three to ten large white purple-veined lipped flowers, with broad maroon sepals, which fill the air with a delicious fragrance resembling musky vanilla. *Sobralias lutea* and *sessile* are very beautiful, though the flowers are transitory; that of the former is large, lemon-colored with canary lip, the foliage being a bright, glossy green; that of the latter about the size and color of *Cattleya superba*: it lasts but one day, but on a large plant we have had thirty flowers open at a time, and a succession is kept up for weeks. Of all singular Orchids, the *Coryanthes* are the most remarkable. To describe the curious structure of the large flowers is almost impossible; the great helmet-shaped cup, into which the ivory horns drip limpid honey, and the deeply marked petals, all combine to make a wonderful flower. These strange and rare plants thrive and bloom equally well on the trees or on blocks. The *Catasetums* and kindred plants are in great variety, and are always, in their quaint, weird flowers, developing something new and curious.

Some are exquisitely fragrant, especially one with a long spike of maroon, purple, and white bearded flowers, which diffuses a strong cinnamon odor. This plant illustrates well the close connection between plants and insects. We have had it in bloom three times, and every time the flower has been visited by a large, brightly marked bee, twice as large as a bumble-bee. Three or four bees always appear from about six to nine in the morning, which is the time when the flower gives out its perfume. We have other flowers, which, as far as we can perceive, have the same rich perfume. Yet to them the bee never comes; at other times we have never seen them; and is not the inference just, that he is fitted to fertilize that one flower?

Thus much for our Orchid house, where, with little care, we always have flowers, and fear no Autumn damp nor Winter cold.

Roof Gardens.—The Japanese have, according to Mrs. Soper's statement, a peculiar way of decorating their housetops. A trough is placed along the roof filled with soil, and planted with various flower seeds. The plentiful rains and genial sun of Japan cause these unique flower-beds to bloom brilliantly in due season, and the effect of a whole village thus decorated is quite picturesque.

HOW THE CHINESE MAKE DWARF TREES.

We have all known from childhood how the Chinese cramp their women's feet, and so manage to make them keepers at home; but how they contrive to grow miniature pines and oaks in flower-pots for half a century has always been much of a secret. They aim first and last at the seat of vigorous growth, endeavoring to weaken it as much as may be consistent with the preservation of life. Take a young plant—say a seedling or cutting of a cedar—when only two or three inches high, cut off its tap-root as soon as it has other rootlets enough to live upon, and replant it in a shallow earthen pot or pan. The end of the tap-root is generally made to rest on a stone within it. Alluvial clay is then put into the pot, much of it in bits the size of beans, and just enough in kind and quantity to furnish a scanty nourishment to the plant. Water enough is given to keep it in growth, but not enough to excite a vigorous habit. So, likewise, is the application of light and heat. As the Chinese pride themselves on the shape of their miniature trees, they use strings, wires, and pegs, and various other mechanical contrivances, to promote symmetry of habit, or to fashion their pets into odd fancy figures. Thus, by the use of very shallow pots, the growth of the tap-root is out of the question; by the use of poor soil and little of it, and little water, any strong growth is prevented. Then, too, the top and side roots, being within easy reach of the gardener, are shortened by his pruning-knife or seared with his hot iron. So the little tree, finding itself headed on every side, gives up the idea of strong growth, asking only for life, and just life enough to look well. Accordingly, each new set of leaves becomes more and more stunted, the buds and rootlets are diminished in proportion, and at length a balance is established between every part of the tree, making it a dwarf in all respects. In some kinds of trees, this end is reached in three or four years; in others, ten or fifteen years are necessary. Such is fancy horticulture among the Celestials.—*The Technologist.*

THE BOTANIC GARDEN OF ST. PETERSBURG.

In an account of these gardens by Dr. Regel, in *Gartenflora*, it is stated that in 1823 the number of species cultivated did not exceed 1500, but in 1824 there was a considerable increase, bringing the total up to 5682, which was augmented to 12,000 in 1830. For twenty years the number remained almost stationary, and in 1850 it was only 12,061. But after this there was a rapid accumulation of species. In 1863 they numbered 16,500, and in 1871 21,320, probably the largest number in cultivation in any single establishment in the world. These collections comprise 827 species of Ferns, 214 Bromeliads, 1088 Orchids, 350 Aroids, 270 Palms, 415 Conifers, 787 Cacti, 1128 hardy shrubs, 2763 hardy herbaceous plants, and 1164 economic and useful plants. The herbarium contains 5507 classified folios, which, according to Dr. Regel's estimate, contain 165,000 species. The botanical museum numbered fruits and seeds up to 25,500; 59,047 specimens of woods; 1096 fossil plants, and 1530 useful productions of the vegetable kingdom. A most extensive botanical library enables them to work up these rich collections.

Horticultural Societies.

AMERICAN POMOLOGICAL SOCIETY.

The eighteenth biennial session of this excellent association was held in Boston, on the 14th, 15th, and 16th of September. There was a very large attendance of members and delegates from many States. A most notable and gratifying feature of the meetings was the presence of the venerable President of the Society, the Hon. Marshall P. Wilder. During the two previous sessions ill-health prevented his presence, but now he took an active part in the discussions, and presided over the meetings with as much dignity and grace as ever; and looked so hale and hearty as to be able to preside over a good many meetings yet. May it be so!

Several valuable papers were read, which will be published in the Society's transactions.

Prof. W. J. Beal, of the Michigan Agricultural College, was elected Secretary, in place of Mr. Robert Manning, who resigned. It will be recollected that, after Mr. Flagg's death, Mr. Manning only accepted the office under most urgent pressure of the members, and discharged his arduous duties so well that it is to be regretted that other engagements prevent him from accepting a reëlection. The Society has been fortunate in securing in Prof. Beal so able a successor, one whose ability and knowledge in horticultural science and practice are too well known throughout the land to require mention here.

The lists of Grapes, Strawberries, Raspberries, Peaches, etc. were revised, and many obsolete varieties stricken from the catalogue. The session closed with a grand banquet in Music Hall, given by the members of the Massachusetts Horticultural Society, and all parted with glad hearts and pleased with their visit to hospitable Boston. The next meeting will be held in 1883, in Philadelphia.

We cannot better explain the objects and achievements of this national society than by quoting the following from President Wilder's admirable address, which we regret not to have sufficient space to print in full.

"Few are aware of the great benefits which have resulted from the free discussions of the merits of the many new varieties of fruits which are continually being brought to notice, recommending only those of promise, and discarding hundreds of kinds which would otherwise be imposed on the public as valuable sorts. Formerly it took many years to test the merits and adaptation of fruits to our several locations; now, when a new variety is promulgated, it must receive the commendation of our Society for trial before it can have an extensive sale, thus recording its relative value and adaptation, saving immense expense and delay. Our catalogue there presents from time to time the results of accumulative experience, and furnishes a text-book and guide for every section of our land.

"In nothing, perhaps, are the happy influences of our Society to be seen more than in its suppression of the numerous inferior or worthless varieties which have been in cultivation, or are constantly being brought to notice, and with which the public are too often deceived. The enterprise and sagacity with which these are promulgated surpass any other former period, and ere the favorite of the day has started on his tour, another jumps upon the track and leaves his rival in the distance behind. The universal interest now manifest in the production of new varieties is worthy of all praise, but it is the mission of our Society to keep watch over this spirit of emulation, or, to use a harder word, speculation, and not to admit into its catalogue any fruits which are of doubtful merit. Some of the new kinds are of inestimable value, and for excellence will take their place permanently in its columns of approved fruits, while many claiming to be the wonders of the age will pass away, as thousands have done before, like a shadow flitting over the plain; or,

" 'Like the snow-flake on the river,
A moment white, then gone forever.'

PRODUCTION OF NEW AND IMPROVED VARIETIES FROM SEED.

"To encourage and extend this most beneficent branch of Pomology is part of the design of this Society, whose purpose and aim is to prescribe the fruits which may be adapted to the various sections of our ever increasing territory. These are the means which Providence has placed in our hands; and the only means for accomplishing this object is the production of new and valuable varieties of fruits. The scientific laws upon which this science is founded are as fixed and certain as those of moral or natural philosophy, the same yesterday, to-day, and forever, and although we may not now be able to prescribe the exact limits to which improvement may be extended, we do know that upon the subtle forces of hybridization, either accidental or by the hand of man, we must ever depend for the improvement of our fruits. Natural hybridization or the cross-impregnation of plants, as we have said before, is as old as creation, and must have given to man the first idea of the power placed in his hand for the improvement of the species. God works by means, in nature and in grace, and requires us to join our efforts with His. 'Seek and ye shall find; knock and it shall be opened to you,' were the original conditions. Nor do we doubt that this art was confided to man by the Creator, that it might be developed to its utmost extent in the improvement of both animal and vegetable life.

"Thus we are to work, in accordance with His command and that divine wisdom which is ever tending toward a higher state of perfection — nature is the handmaid, man the agent to coöperate with her — and the highest triumph of his skill is to control and elevate her for the benefit of our race. 'It is the part of man to create,' says Ralph Waldo Emerson, 'and his profession as a cultivator of the soil, too, stands nearest to God, the first cause.' The first seeds sown by man were the germs from which sprang the civilization, elevation, and refinement of the human race. So it is with the amelioration and improvement of our fruits. From the sour Crab, the puckery Pear, the bitter Almond, and the austere Plum, came the tender, spicy Apple, the melting, juicy Pear, the velvet, luscious Peach, the delicious purple or golden Plum, and from our rank, foxy Grape, came the splendid varieties which now adorn our tables and 'make glad the heart of man.'

"The laws of reproduction we do not now fully understand, but from the improvement which we have already witnessed we have reason to believe that we have only to become familiar with their operations and our efforts will be crowned with success. There may be a limit beyond which a fruit may not be improved; but the marvel is that, considering the inferior character of the fruits of former days, we have been able to produce so many of the fine varieties which now grace our exhibition. And when we take into consideration the number of fine varieties of American origin which have been produced during the existence of our Society, we have cause for the greatest encouragement and perseverance.

"But, great as our acquisitions have been, still greater results are to follow. When we look at the advance in Strawberry and Grape culture, and the numerous fine kinds which have been originated from seed within a few years, who is not desirous of renewing his efforts in the prosecution of this good work?

"It is strange that Duhamel had so little confidence in obtaining good Pears from the natural seeds, and we cannot account for his ill success in any other way except that of sowing the seed of poor varieties. But thanks to Van Mons for his enterprise—although the improvement which he claimed from the process of amelioration by sowing the seeds of successive generations of the Pear, we believe, came from the natural crossing of his best sorts in the same grounds—thanks, however, everlasting thanks to him for his advice 'to sow, resow, and sow again the seeds of your best fruits, as the only means of obtaining good fruits.' And now, my friends, had we commenced sowing the seeds of our good fruits early in life, in accordance with his advice, we should now have an abundance of excellent kinds adapted to our respective locations. On my own part, I have to say that, could my life be prolonged for another four score and three years, I would devote them all to the promotion of this most benevolent and interesting employment.

"And now, in fulfillment of my promise ever to speak to you of the importance of raising new varieties of fruits, which may be adapted to general cultivation or to particular localities, I have to urge on you, even at the risk of repeating what I may have said before, the duty of continuing your efforts in this most philanthropic enterprise. Every year affords us additional evidence, in the acquisitions of new and valuable kinds, and of the ease with which they may be possessed. These are the only methods by which we can expect to obtain new and improved fruits, or to produce substitutes for those which may in time become deteriorated and unprofitable for cultivation. We therefore hail with pleasure the wide-spread interest which is now manifested in this most laudable pursuit. The process of hybridization is simple, whether by the air, insects, or the hand of man, and we have only to have due regard to the characteristics of the parents from which we breed.

"Thus, as it were, 'line upon line, and precept upon precept,' I have endeavored to impress on you the importance of this branch of our science; and, as it was my first, so it shall be my continual and last advice: '*Plant the most mature and perfect seeds of the most hardy, vigorous, and valuable varieties; and as a shorter process, insuring more certain and happy results, cross or hybridize your best fruits.*'"

Household Pets.

THE GRAY SQUIRREL.

Without pets of some kind, half the boys of our country (and a fair sprinkling of the girls, too) would run wild, and there would be a constant war to keep them at home. But right here is where pets play a very important part, and no parent who is gifted with any forethought will object to the comparatively trifling expense when there is so much that is desirable at stake. It may not pay in a mere dollars and cents view, but it will in other ways, to buy your boys pets such as they want, and can and will care for properly. Many a boy has been led from idleness and incipient sinfulness to habits of industry and usefulness through having and owning some pets, whether birds or animals.

The gray squirrel, when gotten quite young and well tamed, offers as handsome and nice a pet as a boy can have. Then very young children should have something quieter, and not so quick with legs and teeth as is the gray squirrel. While they can, when trapped full grown, be made quite tame by kindness and gentleness, they never entirely lose their wild nature, and several times have we been reminded of this when their sharp teeth suddenly pierced our fingers, on our handling them too roughly in our eagerness to catch them and return them to their cages, for we were accustomed to giving them their liberty for a couple of hours each evening in our dining-room. It is always best to secure very young ones—those which have never known what it was to have their freedom, and then you can make them very tame, while older ones have generally to be kept in their cages all the time, which detracts very much from a *boy's* estimate of their good qualities as pets.

The utmost cleanliness must be observed with them, and their cages must be well cleaned out daily, fresh litter (*fine* hay being the best) being regularly supplied. They must be watered daily with pure, fresh, and cool water, which they lap like a dog from a cup or basin, and can soon be accustomed to come at one's call to take their drink from their master's hand. They are very fond of chestnuts and other nuts, which is their accustomed food, but they take kindly to bread, cake, bits of apple, etc., and we have found that it does them good to vary the food a little. They delight to gnaw on a piece of fresh twig, and one should be given them every two or three days to exercise their teeth on.—*Poultry Monthly.*

CARRIER PIGEONS.—It is stated in the *Scientific American* that a Carrier Pigeon belonging to Mr. John C. Haines, of Toms River, N. J., flew recently a distance of thirty-six miles, in an air line, in twenty-four minutes. Ten other pigeons, released at the same moment, reached home a minute later than their leader.

GOLD-FISH.—One of the most frequent causes of disease in pet fishes is handling, while moving them from one vessel to another. A net of gauze, or other soft material, should be used for this purpose, and the fishes never touched with the hands.

BOOKS AND PAMPHLETS RECEIVED.

Bulletin No. 2 of the New York State Agricultural Society.—A summary of the replies from 240 correspondents as to the state of the crops in midsummer.

Market Gardening Around New York.—An instructive paper read before the annual meeting of the Association of Nurserymen, Florists, and Seedsmen, by Peter Henderson.

Fair Edition of the Rural New-Yorker.—This is intended for free distribution at the autumn exhibitions, and may well serve as a model number of that valuable agricultural and horticultural journal. It is full of useful and practical information, and will be sent free to any one applying to *Rural New-Yorker*, New York.

Tree Planting and Forestry in Europe, by Professor B. G. Northrop, Secretary of the Connecticut Board of Education.—This work, although primarily written as a State Report, contains much information of the highest importance to the entire country. The writer relates what he saw and learned at the principal schools of Forestry in Europe, and from these and many other facts he draws the pertinent conclusions how best to preserve our own forests, and how to transform many large areas, which are now worse than useless, into valuable timber lands. To the agriculturist, as well as to the student of national economy, the work offers many suggestions for thought.

Transactions of the Massachusetts Horticultural Society for 1880.—The two parts of the report were kindly sent us by Mr. Robert Manning, the efficient secretary of the Society. The first part contains, in addition to the minutes of the meetings, valuable papers and discussions on New Hardy Ornamental Trees and Shrubs; Native Plants; Profits on Farming and Gardening; Peat and Peat Lands; Influence of Stock on the Scion; Rose Culture; Seedless Fruits; Dates of Flowering of Trees and Shrubs in Eastern Massachusetts, and many other shorter articles. The second part is filled with reports of the exhibitions, and other matter of local interest mainly.

History of the Massachusetts Horticultural Society from 1829 to 1878.—The title of this handsome volume, edited by Robert Manning, hardly conveys an idea of its contents. Although the primary object of the work is to give an accurate account of all that relates to the history of this society, it is edited in that liberal and unselfish spirit which has always characterized this excellent organization, and the work does almost take the place of a history of American Horticulture. The painstaking care and endeavor of the editor to secure the utmost accuracy in every detail are apparent throughout the volume, and to any one interested in the progress of American Horticulture, or the history of the introduction and improvement of flowers, fruits, and vegetables, the work will fill a long-felt want.

Second Quarterly Report of the Kansas State Board of Agriculture.—A pamphlet of 108 pages, a leading feature of which is valuable papers by the most prominent growers in the various counties on the raising, handling, and marketing of Broom Corn, Castor Beans, Flax, and Hemp. These crops, though formerly considered of minor importance, are found to be well adapted to Kansas soil and climate, and owing to their comparative freedom from insect depredations are especially likely to receive no small share of attention in future. To all interested in a greater and more profitable diversity of crops, this collection of information from men actually engaged in their cultivation will prove of great interest and value. The report can be obtained upon application, by inclosing two three-cent stamps to the Secretary, J. K. Hudson, Topeka, Kansas.

ANSWERS TO CORRESPONDENTS.

Plant for Name.—*E. A. M., Green Tree, Pa.*—The name of the flower sent is *Hibiscus trionum* (flower of an hour), the popular name given to it on account of its short time of efflorescence. It is a native of Southern Europe, and has found its way into gardens and cultivated grounds so as to be almost naturalized.

International Cotton Exposition.—This fair is held at Atlanta, Georgia, from October 5th to December 31st. We are informed by the Director-General that excursion tickets will be sold during October, November, and December, from New York to the Exposition, at $36.00, good to return within thirty days from date of purchase.

Hoya carnosa (Wax Plant).—*Subscriber, South Bend, Ind.*—This curious plant belongs to the Milkweed family. It is a native of Asia, and has to be grown in a hot-house or warm sitting-room. It thrives splendidly in the warm, dry air of our rooms, when exposed to the full sun and syringed frequently with tepid water. It requires a light, rich soil and good drainage.

Supply of Nitrogen.—*Prof. Atwater* says: "The prevailing opinion among agricultural chemists for some time, and one which I have shared, has been that plants get nearly all their nitrogen from the soil, and extremely little from the air. But there are many facts which are very hard to explain on this theory, and I am, with many others, coming to suspect very strongly that plants do, somehow or other, get considerable nitrogen from the air."

Barren Peach Tree.—*W. C., Chateauguay, Canada.*—Barreness in fruit trees may result from various causes. The most frequent one is a too vigorous growth of wood. In such cases, nothing promotes fruiting so much as pinching in of the young shoots during summer. Fall and winter pruning has just the opposite effect, and is performed mainly to shape and thin out the tree. "Prune in summer for fruit, in winter for wood," says an old adage.

Vallota purpurea.—*Mrs. A. P., Unionville, Conn.*—The Vallota succeeds best with ordinary pot culture. While growing, it requires an abundance of water, but during winter no more water should be given than is necessary to prevent its drying off. It requires but little heat, and grows best in a compost of loam, leaf, mold, and sand. It can easily be propagated by offsets, which are freely developed, and, after potting singly, will soon produce flowering bulbs.

Cauliflowers not Heading.—*J. H. F., Compton, N. Y.*—The general error in the cultivation of Cauliflowers is, to plant the early kinds too late and the late varieties too early. Still, during so severe a drought as the present one, it is not surprising that Cauliflower should not head well, even if all possible care has been given. Cauliflower needs rich, deep soil, good cultivation, considerable moisture, and, when the heads are forming, the long outside leaves should be turned over to the center of the heads.

American Potatoes in England.—At the *Great International Fruit, Vegetable, and Flower Show*, recently held at Manchester, American Potatoes formed a remarkable feature of the exhibition, and are described as of fair size, exceedingly clean and handsome. *Triumph, Trophy, Late Rose, Snowflake, Pride of America, Beauty of Hebron, Early Ohio*, and *Matchless* were among the most admired varieties. The latter was awarded a first-class certificate by the Royal Horticultural Society.

Guano and Potatoes.—*T. G. C., Central Falls, R. I.*—Guano and all strong nitrogenous fertilizers have a tendency to produce rot in Potatoes and to deteriorate their table qualities. Potash salts and Phosphates, when applied to ground on which a good dressing of stable manure has been plowed under during the previous year, give generally the best results. Plaster, dusted over the leaves during the growing season, is very beneficial. We have never perceived any good from applying it in the hill, but it may act differently on other soils.

Scraping Grape-vines and Trees.—*R. H., Columbus, O.*, asks: "Should the loose bark on the main stem and branches of Grape-vines be pulled off, and what is the best time for doing it?"

The bark of Grape-vines and fruit trees serves as a protection against sudden changes of temperature, against wind and sun, and is as necessary to the life of the plants as hair and feathers are to animals, Only in exceptional cases, in order to destroy injurious insects, is it advisable to scrape the trunks of trees or pull off the loose bark of Grape-vines. Spring is the best season for this operation.

Cocoa Fiber Refuse.—*A. D.* states, in *Gardening Illustrated*, that "this very useful material may not possess any valuable manurial properties, but it is remarkable that all kinds of seedling and soft-rooted plants take to it most readily and grow in it freely. Its chief recommendation when mixed with stiff soils is held to be its enduring properties, giving fiber to these and keeping them open and porous, instead of running together and getting baked like a brick. Leaf soil and decayed manure, full of nutriment as these may be, soon disappear, but the Cocoa fiber is more lasting. Not least, the refuse is most valuable as a top-dressing for soils that burn."

Compost Heaps.—*C. A., Colorado Springs, Col.*—The principal object of composting fertilizers is to prepare them by fermentation and dissolution so that they become sooner available for plant food than would be the case when applied in the raw state. The easiest way to make a compost heap is to spread a layer of muck, sods, or soil about six inches deep, on any convenient level spot; over this spread a layer of stable manure, about twelve inches deep, then soil again, and so on, to any convenient height. Ground bone or other concentrated fertilizers may also be mixed through the mass. The top of the heap should be made level, so as to catch the rain, and that water may be carted on it when the mass becomes too dry.

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This magnificent Camellia was awarded the gold medal of the Massachusetts Horticultural Society as the finest Scarlet Camellia. The flowers are very large, measuring five inches in diameter, full, and perfectly double to the center; color rich crimson-scarlet: petals large, bold, of great substance, beautifully imbricated and symmetrically arranged, entire on the edge; growth vigorous, habit good, and foliage large, glossy, deep green; an abundant bloomer. The first time offered for sale in America. $1.50 each; $12.00 per dozen.

C. H. HOVEY.

Entirely new in color,—a rich, dark maroon-crimson, like Gen. Jacqueminot rose. Form perfect; petals round, symmetrical, without notch on the edge, remarkably deep, and imbricated to the center. Habit beautiful, branching vigorous, with unusually handsome deep-green foliage. The first time offered for sale in America. $1.50 each ; $12.00 per dozen.

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This lovely variety has just been awarded the prize of $60.00 by the Massachusetts Horticultural Society as the finest new Seedling Camellia. This Camellia surpasses in every quality all other varieties yet produced. In the shape and symmetry of the flower, and in the form, substance, and perfection of petal, it has no equal; but its most remarkable character is its peculiar and distinct quality of producing flowers of MANY DIFFERENT COLORS on the same plant. The prevailing color is a clear, waxy white, delicately penciled with crimson; but often a great number are of the darkest and richest carmine. Some are of the deepest shade of blush, others blush, striped with carmine. Habit erect and symmetrical; flowers as abundantly and as freely as the old Double White. $1.50 each ; $12.00 per dozen. Large plants, $5.00 to $20.00 each. For sale by

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Italian Onions for Fall Sowing.

The following varieties of Italian onions are specially recommended for present sowing in such latitudes as will permit of their cultivation during the cold season. Several are of quite recent introduction, but all have been thoroughly tested, and the close resemblance to the well-known Bermuda Onion renders them exceedingly popular wherever introduced. We have supplied these varieties for several seasons to Florida cultivators, for which climate it seems particularly adapted.

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Those who desire their seeds sent by mail in quantities of foour unces and upward, will be required to remit at the rate of sixteen cents per lb., for postage, in addition to prices quoted.

Price of each variety, with exception of New Queen, per pkt., 10c.; oz., 30c.; quarter lb., $1.00; lb., $3.50.

Large Italian Red Tripoli.—; Bulbs of this variety were exhibited in England weighing two and one-half pounds; flavor exceedingly mild and pleasant.

Large Italian White Tripoli.—Specimens were exhibited at the Royal Agricultural Show at Oxford, four roots weighing nine pounds.

New Giant Rocca of Naples.—Bulbs exhibited weighed three and one-half pounds. This variety has a light-brown skin, of delicate flavor, and of globular form.

Giant Rocca Blood Red.—Similar to the above, except in color of skin, which is dark red; decidedly one of the finest sorts, and keeps well.

Giant Rocca Yellow.—Similar to the two preceding varieties; clear yellow skin; of large size, mild flavor, and excellent keeping qualities.

Marzagole.—The latest novelty in this class; grows to a large size, silvery white skin, and said to be the earliest of all. If sown in autumn in warm climates, will be ready for use in March.

Nocera.—A very early, flat-shaped silvery skinned variety, similar to the New Queen; of excellent flavor; splendid for pickling, and keeps well.

New Queen.—A very nice silver-skinned Tripoli Onion, as remarkable for its keeping qualities as for the rapidity of its growth. Very mild flavored, and excellent for pickling. Pkt., 10c.; oz., 40c.; one-quarter lb., $1.25; lb., $4.50.

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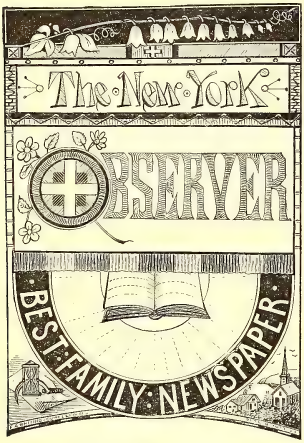

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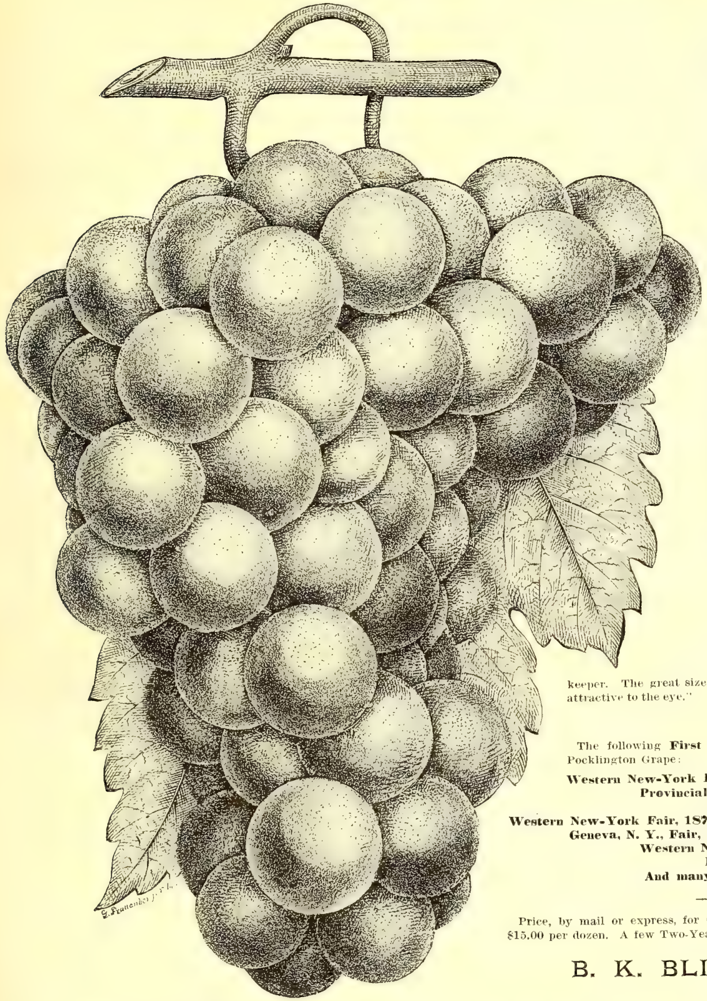

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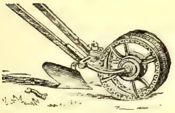

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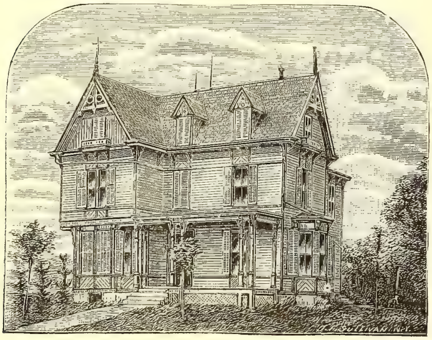

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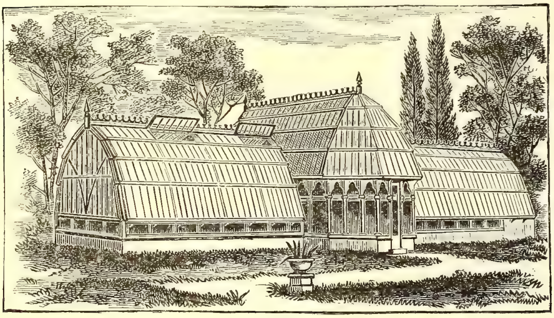

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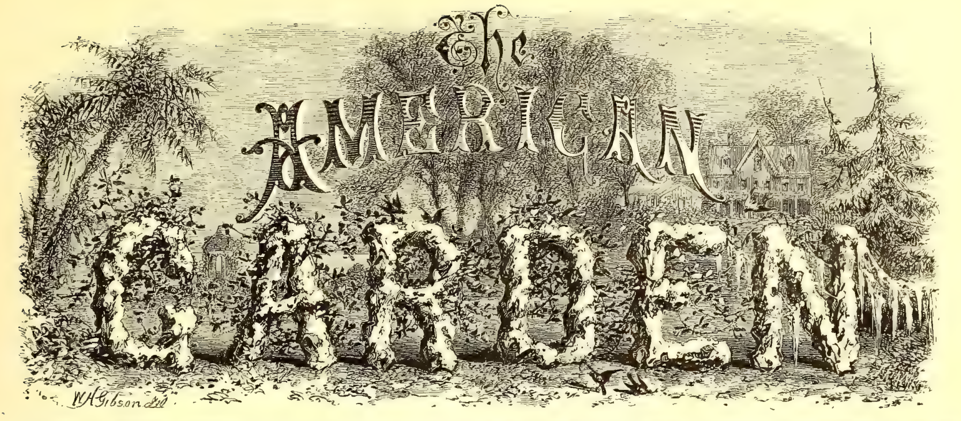

Vol. III. NEW YORK, JANUARY, 1882. No. 1.

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The American Garden

FOR JANUARY, 1882.

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Page Ten—BOOKS AND PAMPHLETS RECEIVED—ANSWERS TO CORRESPONDENTS—Miscellaneous.
Page Eleven—ADVERTISING DEPARTMENT.

We present with this number to every subscriber an accurate and life-like colored plate of a bunch of the now famous Pocklington Grape, and shall issue, from time to time, as opportunity offers, other appropriate plates.

THE AMERICAN GARDEN.

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It is after mature consideration that we make this change, well aware of the great obligations which we incur with the undertaking. Yet, with hundreds of letters from our subscribers before us, bearing assurance that our efforts have been appreciated, and that the only fault they have to find with the paper is that it does not come often enough, we cannot doubt that we are justified in making the venture.

We take this occasion to tender our grateful acknowledgment to our many friends who have faithfully stood by us, who have encouraged and sustained our infant craft until it has grown to the size and strength of the full-decked vessel, ready to sail forth into the world before it.

The monthly AMERICAN GARDEN will not differ materially in form and general arrangement from the quarterly, except that we intend to make its contents still more valuable and acceptable to its subscribers. While we aim to educate and elevate the popular taste for everything that is beautiful and grand in nature, and to make our readers familiar with all new discoveries and progressive methods in Horticulture, it is not our purpose to discuss abstract and theoretical dogmas, nor to fill our pages with Greek and Latin terms, unintelligible to all but the scientist, when plain English words can be used to express the meaning as well.

Those who seek reliable practical information about any or all branches of gardening may be sure to find it in our columns, presented in simple, popular style. No paper is more carefully scrutinized before it meets the eyes of the public, and nothing that could in the least offend the most refined and cultivated taste is ever admitted, either as reading matter or advertisement.

We make no further promises, preferring that our work should speak for itself, and confident that those who follow us through the coming year will find all reasonable hopes realized.

TERMS.

The subscription price for the monthly AMERICAN GARDEN is

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Our old subscribers, whose subscriptions expire with this number, have already paid for this, and are entitled to the paper from now till the close of the year for *ninety cents*. Or they may, by remitting *one dollar*, select an additional premium from our list.

OUR PREMIUMS.

Some of our readers have expressed the opinion that our journal is good enough without premiums, and we fully agree with their judgment; yet when we read the many favorable commendations which we receive almost daily about our premiums distributed during the past year, we cannot but believe that to the majority of our subscribers the premium seeds have been highly acceptable. We offer, therefore, to every subscriber of THE AMERICAN GARDEN for 1882 the choice of one package of any *one* of the following:

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The Vegetable Garden.

SEASONABLE HINTS.

The exceptionally severe and wide-spread drought of last summer has revived in the minds of many the fact that a deep, mellow, and well-manured soil can withstand the effects of a drought better than shallow and poor soil. From our own experience we can cite an instance where about one-fourth of a field had been plowed twice, and lightly dressed with stable-manure, while the remaining part received no manure, and was plowed but once. The whole field was then sown broadcast with Turnips on the same day. At harvesting, the manured part yielded not only much larger and better Turnips, but more than the three times larger unmanured ground. The time to prepare for a good garden is now.

Manure is the foundation of all land culture, and although a good gardener will at no time let any fertilizing matter go to waste, the comparative leisure of winter offers many favorable opportunities for collecting and saving fertilizers. Where live stock is kept, of course, all manure should be carefully saved and mixed with sufficient absorbents, that none of its liquid and gaseous parts may escape.

Forest Leaves, as well as those from shade and road trees, contain considerable quantities of potash and phosphates, and make excellent bedding for stabled animals. When leaves cannot be utilized in this way, they should be added directly to the compost-heap, covered with soil, and kept moist with house-slops. They will decompose during winter, and, when thoroughly rotten, make a most excellent top dressing for seed and flower beds.

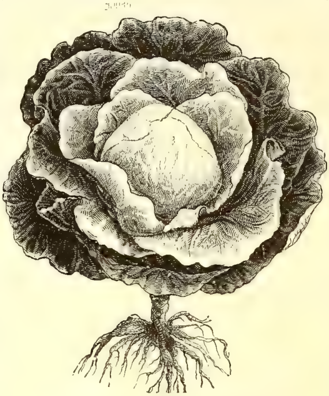
Heavy Soils are too cold and wet in spring for the successful growing of early vegetables. Plowing late in the fall in narrow lands, with deep, open, dead furrows between them, dries and mellows the ground considerably. When muck or sand can be procured without too much expense, an application of either or both will generally effect a permanent amelioration. If fresh muck is used, it should be spread on the ground in early winter, so as to become thoroughly frozen through before being turned under.

Experimental Plats.—We are frequently asked to name the best variety of each kind of vegetables. Now, the fact is that no list, however carefully selected, will be found adapted to every soil and locality, and even if a certain variety has given satisfaction in one season, it does not follow that it always will do so. There is no surer way to determine the relative value of different varieties than actual experiment, and every intelligent cultivator of the soil should have his experimental ground, however small. Valuable experience as to the earliness, productiveness, hardiness, and quality may also be derived from the general garden, by planting different varieties side by side. Thus the peculiar characteristics of each kind may easily be observed and noted without additional expense or labor. Plans for trial-beds should be made during winter, and the necessary seeds selected and procured, so as to have everything ready for the "busy season."

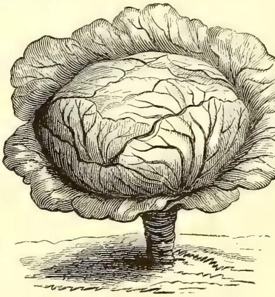
Seeds, if kept *dry*, are not injured by any possible degree of cold.

EARLY CABBAGES.

It is quite as easy to grow a crop of early as of late Cabbages. There is, of course, more expense attached to the first-named from the fact that, in the northern and western sections of the country, the plants for early Cabbages have to be grown in the fall and kept protected in frames through the winter. This entails considerable outlay, and in order to be successful, the ground, to raise a maximum crop of early Cabbages, needs twice—yes, three times—as much manure as will be required to grow a late crop. This extra labor and expense may be set down as temporary, from the fact that a full crop of early Cabbages has three times the money value of what is usually realized from a late crop. Besides, it is harvested in July, in time to utilize the same ground for raising a full crop of Celery, which grows luxuriantly on ground of this character without any extra application of manure. In sections where market gardening is carried on with economy and skill, a crop of Lettuce planted between each two rows of Cabbage is taken off the same piece of ground the same season, making three crops in the nine months; and this plan is followed every year by gardeners located near large cities.



EARLY WAKEFIELD CABBAGE.



EARLY FLAT DUTCH CABBAGE.

The time of sowing the seed for early Cabbages, in the latitude of New York, is from the fifth to the fifteenth of September, in the open ground, in an ordinary seed-bed—the rows a foot apart—the seed sown thickly and covered lightly. By the middle of November these plants are large enough to prick into a cold frame, putting from six to eight hundred to a sash of 3 x 6. As the weather grows colder the sashes are put in place, and the only labor from then until spring is, on mild days, to give the plants some air by raising the sashes, or pushing them up or down on the frames. Plants kept in this way become stocky and hardy, and can be set in the open ground as soon as it can be worked in the spring, one month earlier than plants grown in a hot-bed, and there will be more than that difference in the time of maturing of the crop in favor of the cold-frame plants.

There is an extended list of early varieties of Cabbages, many of them possessing more or less the qualities desirable in a solid, large-sized, tender head. But market gardeners in the vicinity of New York, Philadelphia, and Newark, New Jersey, give preference to the Jersey Wakefield over all the other early sorts, and it is safe to assert that nine-tenths of the number planted, in the locations named, for the earliest crop are the Jersey Wakefield, and this variety has held the same front position for nearly a score of years. Cold-frame plants of this and other desirable varieties, as Early Flat Dutch, Early Summer, Large Early Schweinfurt, Winnigstadt, etc., for planting in the kitchen garden, can always be bought at a low cost in most seed-stores, as soon as the spring opens.

When early Cabbages are grown for profit, there are two important points which the market gardener never loses sight of at any time. The first is to plant early, and the second to prepare his ground in such a way that it will give a full crop of uniform-sized heads, in the shortest possible time. By following this rule, the crop is marketed early and in a limited time, so that the ground can be made ready for another crop in the latter part of July, in full time to plant a fall crop. In planting in the kitchen garden, the same rule should not be overlooked, for it is generally safe for those who plant for pleasure to watch and practice the methods of those who invest capital in raising Cabbages for profit.

In the early days of April, when the ground is dry enough to work, thoroughly rotted stable manure may be spread thickly over the surface, and plowed or turned under at once. There is no danger of using too much manure for early Cabbages. The most prosperous market gardeners apply rotted manure so liberally that it needs a man to tread it down in the furrow so that the furrow-slice will cover it. When the ground is plowed in the way described, the surface is made smooth and level by drawing the back of a harrow over the plowed ground. The plants taken from the frames may then be transplanted in rows two feet apart and eighteen inches apart in the row. This is done with an ordinary hand dibble, fastening each plant firmly in the soil. When it is desirable to couple economy in space with profit, a row of Lettuce-plants may be set a foot apart between each two rows of Cabbages, and the Lettuce will come to maturity long before the whole space is needed by the crop of Cabbages. When once in place, the only important matter is to keep the surface loose and entirely free from weeds and grass. This will have to be done with hand-hoes, going over three or four times while the plants are small. Later in the season the labor is but a trifle, for there will be sufficient shade to keep down the growth of weeds. The cheapest and most effectual way to keep the crop free from weeds is to disturb the surface often enough not to allow them any headway.

P. T. QUINN.

MUSHROOMS.

A steadily increasing demand for Mushrooms in most of our large cities has awakened a lively interest in the cultivation of this peculiar delicacy, and in the vicinity of New York several houses have lately been built specially for their cultivation. During summer and early winter there is but little difficulty in raising Mushrooms—any shed or dark place sheltered from rain and frost can then be turned into a Mushroom house; but when they are desired during the winter months for market or home use, more extensive and careful preparations are necessary.

Mr. Samuel Henshaw, who has given much attention to this subject, has recently read a valuable paper before the New York Horticultural Society, from which we condense the most important points.

It is useless to attempt winter forcing of Mushrooms in any place where the temperature falls below 50°. Cellars under greenhouses were formerly considered most suitable, but in building houses for Ferns and Orchids provision may be made for a shed-like extension on the ground floor, about fifty feet long by eight feet wide, with a hot-water pipe running through the entire length; so far such structures have answered the purpose admirably.

"In my own practice," says Mr. H., "I do not find it necessary to have fresh manure from the stable, as is so often recommended by some growers. When we get in our supply of horse-manure in the autumn, about the end of October or beginning of November, I take care to have all the finest portion of it carted to an open shed, where there is sufficient room to pile it in a loose heap, so as to be turned as often as the heat becomes violent. This will not be so often as once a day; but care is taken that it does not burn. If it is fresh manure, it will take nearly a month before it is sufficiently fermented to get rid of the offensive smell, and prevent the danger of burning when it is made into a compact bed.

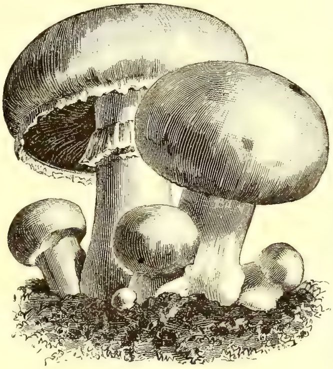
"I never mix any soil with the manure, either when turning it over to ferment or in making the beds. Of course it takes a little longer to prepare it than it would if soil were mixed with it, but the after results are much more satisfactory; the crops are better, and for a longer period than I have seen where soil was mixed with the beds. In making the beds, a layer of manure is spread about four inches deep, which is all trodden or beaten down as firm as possible; then another layer of the same thickness, with another treading, and so on till the bed is from twelve to fifteen inches deep; trial sticks are then put in, which are pointed sticks about eighteen inches long, driven into the bed about four feet apart, and these are examined occasionally in order to know when the bed is of the right temperature for putting in the spawn. If the bed does not begin to ferment in about a week from the time of making, it is covered with hay or leaves, but this is not often necessary; for, as a rule, the heat is very violent, and if there is any danger of burning,—that is, if it becomes white or 'fire-fanged,'—I make a few holes in the bed to let out the steam. Usually, however, in about ten days the bed will be cool enough to spawn, or about blood heat (98°).

"In spawning the bed, I prefer what is called flake spawn, which is produced by breaking up the brick spawn into pieces about two inches square, and mixing them in a heap of manure that is fermenting gently. After being in this heap about three weeks it will be found one mass of spawn, and in just the right condition for running vigorously all through the bed in a very short time.

"A handful of it is put in, about four inches deep and one foot apart, all over the bed; if brick spawn is used, it is broken into pieces about the size of an egg, and put about three or four inches deep, nine inches apart, then the whole bed beaten down as firm as possible.

"When the spawn used is in a state of activity, as it is when flake spawn is used, the appearance of the crop is from two to three weeks earlier than when brick spawn is used.

"If the material of the bed has been properly prepared, there is not much danger of overheating after this time; but it is best to be on the safe side, and defer putting soil on the bed until after the spawn has begun to spread, which may be known by lifting up a portion and examining it. If it has begun to run, the bed will be found full of a very fine thread-like substance, having that peculiar smell of Mushrooms.



CLUMP OF MUSHROOMS.

"Now comes, in my opinion, a very important part of the preparation for a crop of Mushrooms, and that is covering the bed with soil. Formerly I was very particular to have the soil finely sifted and spread evenly over the bed, about one inch deep.

"In a great measure this plan defeats the object of making the bed firm; for when the Mushrooms appear, if the surface of the bed once gets thoroughly dry, all the small ones are certain to wither, or, as the old gardeners say, fog off.

"Of late years I have practiced what has proved to be a much more reliable way of putting soil on the bed, which consists of cutting fresh grass sods, about two inches thick; these are laid all over the bed, grass side down, and trodden or beaten down as firm as possible. With this covering, I have never found the small Mushrooms to wither before coming to maturity.

"Another advantage over the old plan is, they continue in bearing longer, the Mushrooms are larger, and come through the sods in a healthy, vigorous way, that is pleasant to look upon.

"In gathering the crop from a bed covered with sods, the largest can be twisted from a cluster without disturbing the small ones, which was often a great loss by the old plan.

"After the bed begins to bear I never use any covering, such as hay, or similar material, for if the place is not absolutely dark, the small blades of grass grow through the sods, and form a sort of mulch, and the Mushrooms, as they peep through the grass, appear much more natural and cleanly than when covered with rubbish; besides, in many cases, the covering is only a harboring place for vermin, such as slugs, wood-lice, etc., which are all great enemies to the crop, and will devour both the Mushrooms and the spawn if they can get at it.

"The beds are made on the bare soil, and cover the entire floor. I prefer this to a foundation of brick or wood, provided the ground is thoroughly drained, so that no water can lodge in any part. The work is easier done, the beds can be made firmer, and if insect enemies make their appearance, it is much easier to get rid of them when the whole surface can be seen at once.

"For watering the beds and sprinkling the sides of the house I use warm water of about 98°; the steam arising from warm water is very congenial to the growth of the Mushrooms.

"When a bed is in bearing the surface is watered about every second day, and when the crop shows signs of exhaustion a dose of liquid manure, previously warmed, is given about once a week. The drainings from the manure heap are found to be best, but if these cannot be had, a weak solution of guano will do, in proportion of one pound to twenty-five gallons of water. Sometimes when an old bed has almost ceased to bear, it may be revived by making a few holes in the surface and pouring in a very liberal quantity of liquid manure, which, with another sod on top, will make almost a new bed of it.

"In regard to the most favorable temperature, there are various opinions. I have had the best success when the house has been kept from 60° to 65°. If the temperature is higher the Mushrooms grow smaller, and the bed becomes sooner exhausted; if kept below 50°, the Mushrooms are slow to grow and are not tender when cooked."

THE AMERICAN WONDER PEA.

Having tested the American Wonder Pea every year since its introduction, in the most critical manner, I can most heartily indorse all the many praises accorded to it by some of your correspondents. I find it has no equal as a garden variety for the main crop as well as for an early Pea. To the market gardener it is invaluable, not only on account of its very large yield, which is a great point in its favor, but also from the fact that the crop can be picked at a saving of at least one-third of labor and ground over the taller-growing varieties, which is another important consideration to the grower. To grow this Pea in its greatest perfection, the seed should be sown at least twice as far apart in the rows as is the common practice; at the same time, the rows may be somewhat closer together. This method will give the plant a branching habit, not unlike that of Bush-Beans. Observation and experiments made convince me that "fifteen pods" to a plant would be the rule, instead of the exception, if the plants are not less than three inches apart in the drills. C. L. ALLEN.

The Fruit Garden.

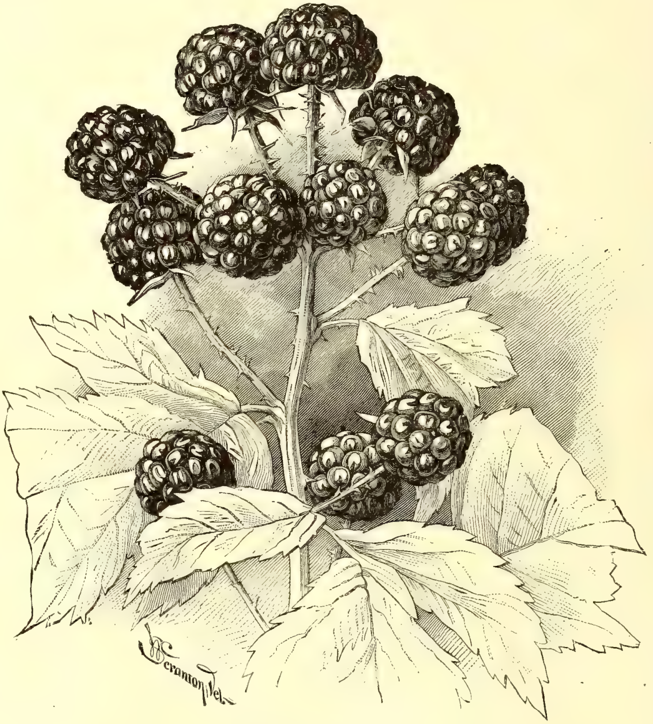
SEASONABLE HINTS.

During the winter months, while the ground is frozen, although nothing can be done in the way of planting and cultivating, much important work may be performed in the fruit garden, and upon its proper execution depends a large share of the coming season's success. One of the most important is—

Pruning.—How, when, and where to prune is one of the most puzzling questions to the beginner in fruit culture. It is often taken for granted that pruning, in some way or other, is something of vital necessity to the growth of a tree. This is far from being true, and unless one understands thoroughly the principles and objects of the operation, it is generally better not to prune at all than to cut and saw promiscuously, and thereby frequently produce exactly the opposite of what was aimed at.

Grape-vines may be pruned at any time during winter when the wood is not frozen. The leading point to fix upon one's mind is, that one or two strong, healthy shoots are better, and bear more, than a dozen weak and sickly ones. It is almost impossible to convince the beginner of this fact, yet it is just as true as that one healthy, well-fed horse can pull more than two sickly and half-starved ones. The experiment is easily made, and nothing could give the novice a clearer understanding of the principles of pruning than to plant two young vines near each other; let the one grow at will, saving all the wood, and tying up the branches; the other, cut back to one bud the first year, and to two or three, according to its vigor, the next, and the first crop of fruit will convincingly demonstrate which of the two is the best mode of treating grape-vines. The "Kniffin system," described in our last issue, is about as simple and easy as any.

Raspberry and *Blackberry* canes, if they have not been pinched back during the previous summer when in a growing condition, must be cut back during winter. Long canes are useless, as the most valuable fruit-bearing spurs break from the end of the cane, and, as a pretty general rule, the lower they are cut, the stronger the side shoots will push, and consequently the finer the fruit.



THE SOUHEGAN BLACK-CAP.

CAP RASPBERRIES.

The improved methods of drying fruits, and the ready market for dried berries, have given a new impetus to the culture of Cap Raspberries, or Thimble-berries, as properly they ought to be called. This classifying two so distinct species under one name has always been productive of considerable confusion, yet, as they were so denominated by our forefathers, Thimble-berries will no doubt be called Black-cap Raspberries to the end of time.

In the early history of small-fruit culture, Cap Raspberries figured prominently, and many varieties, all chance seedlings, were introduced and cultivated; but from disease and other causes most of them have become deteriorated and unreliable, creating a demand for good reliable new varieties, which seems in a fair way of becoming satisfied. The following varieties are among the most promising recent introductions:

Hoosier Mammoth is evidently a seedling of the old Mammoth Cluster, and is in no way superior to it, unless it be that it is less subject to the casualties which impair the value of the latter.

Florence.—This is a large yellow or buff variety, and were it not that the so-called yellow varieties are not popular, and not in demand in the markets, would be eagerly sought after. It is almost as large as the Gregg, of strong growth, excessively prolific, and entirely hardy. It ripens in mid-season to late, and is of sweet and pleasant flavor. A dish of this and the Gregg, nicely mixed, is a most appetizing sight to all who are fond of Cap Raspberries.

Hopkins originated in Missouri, and promises to be of great value. According to an excellent authority from the State of its origin, it is as large as the Gregg, decidedly hardier, and even more productive.

Gregg.—In congenial soil, and under proper treatment, this is, perhaps, the largest Raspberry of its class that has as yet been produced. Much disappointment has been encountered with this variety by planting it upon thin, light soil, where most Cap varieties succeed. The Gregg Raspberry, like the Strawberry, delights in a deep, rich, cool soil, and is so critical in this respect that it frequently refuses to respond in the least to any amount of coaxing on almost any other, and proves an utter failure upon sand. It is extra large, jet black, with a decided bloom, and, although quite good, yet not of the highest quality, being somewhat dry and meaty. In time of ripening it is a little later than the well-known Mammoth Cluster, hence late to very late. Very productive (when grown on congenial soil, and with thorough culture), and although exempt from the diseases that attack the Mammoth, and free from its weaknesses, it is not quite as hardy as that fine old kind. However, taken all in all, it is a variety of great value, and worthy of a place in all gardens suited to its culture.

Souhegan is just what every one interested in Cap Raspberries has long been looking for: to wit, a good *early* variety. It has steadily, and entirely upon its own merits, made itself known, and really leaves but little to be desired as an early Black-cap, either for market or the home garden. Of first importance is, that it succeeds on both light and heavy soils, and in productiveness it is simply wonderful, being, without exception, the most prolific variety of the productive Cap Raspberries that has yet come under my notice. In hardiness it appears to be "iron-clad," having stood twenty degrees below zero without injury, when all others in the same plantation were killed to the ground, and is very early, ripening about a week earlier than Doolittle. It is of fair size, as shown in the accompanying illustration (which is a correct portrait of a cluster), juicy, sweet, and rich, and, what adds much to its value as a market berry, shining jet black, without bloom. J. T. LOVETT.

NUT-TREES.

If the readers of the GARDEN had seen the pleasure it afforded the babies, the other day, to gather a pailful of Filberts in their nut-groves, they would all say, we will have a nut-grove. It is so easy. The same rule applies to all varieties. Gather the nuts as soon as ripe, or buy them as soon as they come into market, while they are fresh. Get as great a variety as possible.

Before this is done, the ground selected for the grove should be plowed or dug over. It is so much easier to do this when there is nothing in the way. The best plan is to put the nuts into the ground just where they are wanted to grow. This should be done as soon as they are gathered, and before they get dry. Some nuts—for instance, Chestnuts—will not grow after they get dry; others will germinate, but not so well. When planted where they are wanted to grow, cover about two inches deep with fine earth, and press the ground down with the foot. This is all that is necessary. The soil ought to be in good heart, so they will start with a strong shoot and grow vigorously. A puny tree is not much comfort. Walnuts and Butternuts will do well on moist soil, but all others require dry land, or ground well under-drained. If the spot selected is exposed to squirrels of any sort, or field-mice, do not plant in the autumn, for these animals will scent and steal the nuts. Under such circumstances the finer nuts should be put into sand. Get a box, broad, not deep, and put sand in it to the depth of three inches—any kind of sand will do, but fine is best; on this put a layer of nuts and then a course of sand, alternating, with three inches of sand on the top. Set the box out-of-doors where it will not be molested by anything. The box should be so open that it will not hold water, and will allow the rains to drain off. Scatter some leaves or sawdust on top of the sand, and let the box stand until spring.

As soon as the ground is settled in the spring, take the nuts out and plant them the proper distances apart. It is best to put two or three nuts in each hill and let them grow, so as to be sure of one strong and healthy tree. The others can be cut off, or dug up and removed. The work of planting must be done early, or the nuts will sprout, and in handling, the tender shoots will be broken off. The root starts first, and this is easily broken. The coarser nuts, like Black Walnuts and Butternuts, may be thrown upon the ground and slightly covered with straw or leaves, and left till spring, when they should also be planted, as early as possible, where they are to grow. All nut-trees, however, may be started in beds in the garden, and the nuts planted in the autumn. When this is done, they should be taken up the second year and the tap root cut off a foot from the base of the tree, so it will throw out side roots, or else, if left to get much older, the tree will not be likely to live when transplanted. All nut-trees send out naturally a long tap root and long roots, without rootlets, near the trunk, which makes transplanting tedious and success doubtful.

Nuts add to the good cheer of a family, and the growing of the trees to pleasant anticipations. As companions to children and home attractions they are valuable. Who ever forgets the pleasures of the nut-gatherings of their youth? F. D. CURTIS.

THE BLACK KNOT.

As the leaves fall away from the Plum and Cherry trees, conspicuous excrescences are frequently seen upon the branches, which, from their shape and color, have appropriately received the name of Black Knot. This is an old enemy of the fruit garden, and its ravages have been so severe in some parts of the country, especially the older sections, that the raising of Plums has been given up. Though known as a very destructive growth upon the trees for a long time, it is but within the last few years that its nature has become known beyond a doubt, through the careful and prolonged study of scientific men.

The history of the investigations into the nature of the Black Knot would make a volume of no small size, and of interest in more ways than one. The insect theory prevailed for a long time; and there seemed to be very strong indications that the Knot was similar in origin to the galls of the Oak, Willow, etc. The fact that the excrescences, especially the old ones, contained living insects, their eggs, and remains of the dead, was taken as positive evidence that the "house" they occupied was built by the indwelling insects. The Knot is now known to be of fungus origin, and therefore is related to the Peach curl, Potato rot, Wheat rust, and a long list of other microscopic plants too small to be seen, except by their destructive effects, as they prey upon the higher forms of vegetation. The fungus, or parasitic plant, was first described in 1838, but it remained for Dr. Farlow, of Harvard University, to publish a full account of the minute plant, and its methods of propagation and growth. I can do no better than to give the argument against the insect theory, or for the fungus nature of the Knot, as briefly presented by Dr. Farlow: "First, the Knots do not resemble the galls made by any known insects. Secondly, although insects, or remains of insects, are generally found in old Knots, in most cases no insects at all are found in them when young. Thirdly, the insects that have been found by entomologists in the Knots are not all of one species, but of several different species, which are also found on trees that are never affected by the Knot. On the other hand, we never have the Black Knot without the *Sphæria morbosa* [the scientific name of the fungus], and the mycelium of that fungus is found in the slightly swollen stem, long before anything that could be called a Knot has made its appearance on the branch; and, furthermore, is not known to occur anywhere except in connection with the Knots."

The Knots range in size from an inch to a foot in length, usually growing upon one side of the branch, causing it to bend away from that side, or twist irregularly. The parasite first makes its appearance in the spring, when the affected branch increases rapidly in size, and becomes soft in texture. The bark is soon ruptured in various places, and the soft interior comes to the surface, expands rapidly, and soon turns green. Multitudes of minute spores are formed on this exposed green surface, which fall away and are carried by the winds, etc., to other twigs, thus propagating the disease. These spores continue to be formed until late autumn, when the surface of the Knot takes on a dry and black surface; in the meantime, insects may have taken possession of the soft tissue within, and so eaten and destroyed it that at the end of the season only a thick, hard crust, or shell, remains. Another kind of spore is found in small pits and sacks of the crust, and as they form late in autumn, they are the winter spores of the fungus, and the form in which the pest is carried through the winter. These spores germinate in the spring, and thus continue the Black Knot. The same Knot lasts for several years, or until the branch is killed, it spreading from the old growth up and down the branch.

The only remedy is the knife. A branch once affected is beyond recovery, and as long as it remains is a seat of propagation of the spores of the fungus. The Knots should be cut off some inches below the main part, because the wood for some distance is filled with the threads of the fungus. I have seen cases where the Knot was thought to be entirely removed by the knife, and a new one would form at the cut end of the stump, thus showing that the work was not properly done. The removed branches should all be burned, as the Knots contain spores which will otherwise become detached and spread the disease. The best time to cut the Knots is in late autumn, because, the leaves having fallen, the excrescences can be more easily seen. BYRON D. HALSTED.

PRUNING GRAPE-VINES.

FULLER'S SYSTEM.

EDITOR OF AMERICAN GARDEN: In No. III., page 37, of THE AMERICAN GARDEN, there is a notice of the Kniffin system of pruning and training Grape-vines, in which the writer says that this system has become so popular in the Hudson River Grape region "that hundreds and thousands of acres have been changed from the 'Fuller' and other methods."

As no other Fuller but myself appears in the list of authors of works on Grape-culture, I conclude that the paragraph quoted refers to me. But I confess to a total ignorance of the system of pruning or training of vines referred to as the "Fuller," because I never claimed to have invented a system, or to have made any discovery in regard to the best method of pruning and training the Grape. In fact, at this age of the world, I can scarcely conceive how it is possible for any one to *invent* a system which shall be of any practical utility in training the vine. All that I ever attempted to do was to explain the principles which govern the growth of the vine in all its parts, believing that when the grape-grower could be made to understand these, he would no longer be at a loss to know how to prune and train his vines. A man may vary his system or style of pruning and training in a thousand ways, so long as he keeps within certain limits, and does not violate the laws which govern the growth of the plant. I may have expressed my preference for certain systems of training vines, but I never claimed to have invented them, but, on the contrary, stated (page 129) that the main features of the system of training which I preferred had "been in uninterrupted practice for more than a hundred years."

A. S. FULLER.

[It is not rare that systems and inventions and countries even are named after those who first described them, instead of after the discoverers, and that in this case a grateful people should have named a system which Mr. Fuller has first made extensively known in this country, "Fuller's System," is hardly surprising.—ED.]

The Flower Garden.

HYMN.

By JOHN G. WHITTIER.

Written for the American Pomological Society, and sung at the grand banquet in Music Hall, Boston, September 16, 1881.

O Painter of the fruits and flowers,
We own thy wise design,
Whereby these human hands of ours
May share the work of thine!

Apart from thee we plant in vain
The root and sow the seed;
Thy early and thy later rain,
Thy sun and dew, we need.

Our toil is sweet with thankfulness,
Our burden is our boon;
The curse of earth's gray morning is
The blessing of its noon.

Why search the wild world everywhere
For Eden's unknown ground?
That garden of the primal pair
May never more be found.

But, blest by thee, our patient toil
May right the ancient wrong,
And give to every clime and soil
The beauty lost so long.

Our homestead flowers and fruited trees
May Eden's orchard shame;
We taste the tempting sweets of these
Like Eve, without her blame.

And, North and South and East and West,
The pride of every zone,
The fairest, rarest, and the best,
May all be made our own.

Its earliest shrines the young world sought
In hill-groves and in bowers;
The fittest offerings thither brought
Were thy own fruits and flowers.

And still with reverent hands we cull
The gifts each year renewed;
The good is always beautiful—
The beautiful is good.

SEASONABLE HINTS.

At the time of this writing—the middle of December—the autumn and early winter rains have not yet penetrated the ground sufficiently to affect the streams and wells materially. The soil was so thoroughly and deeply dried out that the water which fell did not reach the lower roots of trees and shrubs even, and if the ground should freeze up before the occurrence of more and copious rains, the conditions of the present winter will be most unfavorable to young shrubs and trees, and perennial plants of all kinds. The roots of many plants which have remained almost dormant during the dry summer have, at the advent of the fall rains, started into a second growth, and, favored by the unusually mild weather, have continued to grow much beyond their usual season. These roots are naturally immature and soft, and illy prepared to withstand the casualties of such a winter.

Mulching is the only safeguard we can apply in this case, and we would advise the mulching of all tender and half-hardy plants, and even such as are considered hardy in ordinary seasons may be benefited by a light protection. But judicious care is necessary not to apply the mulch too early in winter, nor to remove it too early in spring. It should in no case be put on before the ground is frozen solid.

Dutch Bulbs, especially, are often covered too early, so that the bulbs are stimulated into precocious growth and the flowers suffer considerably from spring frosts.

THE WILD GARDEN.

Wild Garden Seeds, as offered among our premiums, are not, as has been supposed by many, seeds of wild or indigenous flowers, but a mixture of a great many species and varieties of the best and most attractive annual and perennial garden flowers in cultivation.

With a packet of Wild Garden Seeds, which every subscriber of THE AMERICAN GARDEN may have for the asking, no one need be without an abundance of flowers. Geraniums, Coleus, Heliotropes, Salvias, Cannas, and the long list of pretty bedding plants, are all well enough, but cost more than many can afford, and to keep them trim and in good order during summer requires a great deal more time than many a busy housewife—with a house full of company in the bargain, perhaps—can spare. But the Wild Garden takes care of itself, delights in being left alone, and rewards our inattention with a profusion of flowers. Hear what some of our subscribers say.

Mrs. M. L. P., Brooklyn, N. Y., writes: "I have sowed the Wild Garden Seeds for four years in my garden, and every year with renewed pleasure from the variety and beauty of the plants produced from them, and many other ladies whom I have induced to try them have had the same favorable results. My garden is half-filled with bulbs and perennial plants, so as to have a fine show of flowers in early spring. In May I loosen the earth between the plants, sow sparsely the Wild Garden Seeds, and gently rake them under. All summer, till late in the fall, I have a wonderful profusion of flowers that could not be procured for ten times the money, giving me any amount of bouquets for myself and friends. Thanks to the mild weather during late autumn, I have had masses of Sweet Alyssums, Indian Pinks, Snap-dragons, Mignonette, Thunbergias, and many others in full bloom. I heartily recommend these seeds to every lover of flowers."

Miss M. E. G., Rohrersville, Md., writes: "I, for one, am perfectly delighted with the package of Wild Garden Seeds received as premium. I prepared the ground and sowed the seed according to the directions which accompanied the package; and as there was not much rain about that time, I kept the ground damp by watering, and was rewarded by a nice lot of plants, which, when in bloom, were the pride and admiration of our whole family and the envy of our less fortunate neighbors. I had expected something nice, but my expectations were more than realized. I cannot tell the many pleasant moments I spent admiring the grand floral display my Wild Garden bed presented, until its beauty was marred by five weeks of intense heat and no rain. I felt like putting up the inscription 'Ichabod' over the dried leaves and withered branches of my highly esteemed pets, but a few refreshing rains have revived the Sweet Alyssum and Mignonette to such an extent that exclamations of delight are again heard falling from the lips of those who behold them, and I feel perfectly happy in the possession of such sweet little floral gems."

Mrs. A. M. L., Hempstead, Texas, writes: "Your premium Wild Garden Seeds have furnished me with lovely flowers the whole summer. Such a blaze of color and abundance of floral beauty I never saw before. I think every seed came up."

TRAILING ARBUTUS.

Most failures in the cultivation of this exquisitely beautiful spring flower result from the careless way in which the plants are taken up. Autumn is the most favorable season for transplanting, yet when sufficient care is taken not to disturb the roots, and to move them when the ground is wet, with as much soil as can be made to adhere, they may be transplanted at any time.

In its natural condition we find the plant shaded by Pines and Oaks, growing in a light sandy soil intermixed with a good portion of vegetable matter. Similar conditions must be provided under cultivation if we expect to meet with success. A mixture of common garden soil, sand, and leaf-mold makes a suitable border, and where no spot can be found that offers sufficient natural shade during the summer months, some leafy shrubs, or a shelter of evergreen boughs, may be made to serve as a substitute. During winter the plants should have a light covering of leaves.

VIOLET BLIGHT.

Blight in some form or other has probably existed from the commencement of creation; of blighted hopes, at least, the garden of Eden had already its full share. Blight in Potatoes, Pears, Grapes, and many other vegetables and fruits, has been known since many years, and now even the modest Violet has fallen under its ban.

The disease appears while the plant is in blossom; small round spots show themselves on the petals of the flowers, as if scalded with boiling water or burned by some acid. In a short time the tissue beneath is destroyed, and the disease or parasite spreads through the entire plant; the leaves wilt, the stem droops, and the roots perish, all within a few hours. In the vicinity of this city, where Violets are a market article of considerable importance, and where some florists make an almost exclusive specialty of raising them, so rapid and complete a destruction of their stock becomes a most serious affliction.

So far as we are aware, the cause and nature of this plague has not yet been investigated nor a remedy for it discovered.

PYRETHRUMS (FEVERFEW).

Only a few years ago these interesting plants were scarcely known except to botanists and compounders of herbs. But the enterprise of our modern horticulturists has brought them to such perfection as to make them take their position among the most valuable plants in garden decoration; and being perfectly hardy, easily multiplied, and particularly free from insect pests and disease, they must soon become much sought for.

They remain in bloom for a long time, from the middle of June to the end of September, and even as late as the end of October a few flowers may be gathered. Many of the varieties are very double and really beautiful, and may easily be taken for fine Chrysanthemums or Asters, having similarly reflexed, incurved, and quilled or anemone-formed flowers. The flowers vary from almost all shades of red and purple to pure yellow and white. When cut they will last from one to two weeks, and are very useful in making up vases or baskets of cut-flowers.

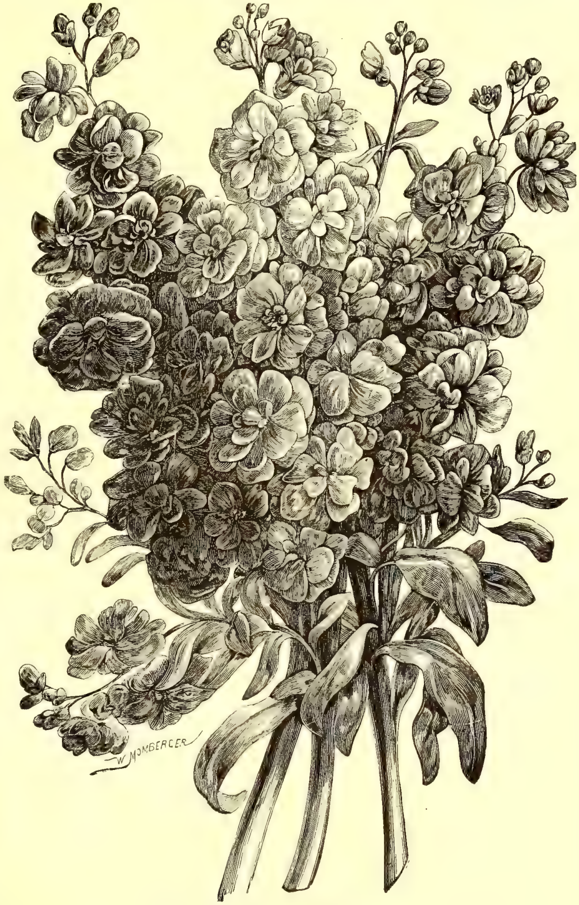
GERMAN STOCKS.

(Mathiola annua.)

To an experienced gardener, the different varieties of German Stocks present nearly or most all the essential requisites of a perfect flowering plant. Of excellent habit, fine, healthy foliage, and deliciously fragrant flowers of almost every desirable and conceivable tint, they are universally admired, and in all well-regulated gardens considered indispensable for bedding, massing, or pot culture, while for cut-flowers they are almost without an equal. In addition to these excellent qualities, they are prized for their ease of culture, freedom from insects, and capability of standing our hot, dry summer weather without sustaining the least injury. The endless varieties of this magnificent flower may be divided into four principal classes: Ten Week, Intermediate or Autumnal Flowering, German Brompton, and Imperial or Emperor.

The Ten Week Stock is the most popular and universally cultivated. The name Ten Week is derived from the fact that the plant blooms within ten or twelve weeks after being sown. The plants grow from half a foot to two feet in height, according to the variety. This class is usually divided into five varieties, viz.: *Dwarf, Miniature, Large Flowered, Pyramidal,* and *Wall-flower Leaved.* For general cultivation, the two latter are most to be recommended.

To those who wish to make only one sowing, the first week in March will prove to be the most favorable season. The seed can be procured in mixed packets, or in separate colors, as may be desired. It should be sown thinly, in well-drained pots of light, sandy soil, covered slightly, and the first sowings placed in a warm, light position, watered carefully, and when the plants are strong enough to handle, transplanted into shallow boxes. As soon as the plants become well established, gradually harden off, and plant out when all danger of frost is over. To provide for a succession of bloom, however, and to enjoy it for a considerable period, it is necessary to make a second sowing about the first of April, in a hot-bed, and a third about the first of May, in a cold frame. This will give a succession until autumn, when we have the Autumnal Flowering varieties to succeed them. An additional sowing, made about the middle of July, will produce fine plants for flowering in the window garden, for which purpose they seem well adapted, on account of their being dwarfer in growth than the Intermediate varieties. In the greenhouse, however, the latter are of most value. Treat the plants as above advised, and take every care to prevent them from becoming "drawn" or "slender"; if they become so, both plants and flowers will be rendered worthless. If the plants that are not too far advanced in bloom are carefully taken up and potted, they will flower nicely in the house, if given a sunny position.



NEW LARGE-FLOWERING GERMAN STOCKS.

(One-half the average size.)

In order to obtain the very best results in the cultivation of German Stocks, it is essential that the flowering bed be thoroughly and properly prepared. This is best done by digging the soil to the depth of two feet at least, and working in a good portion of well-rotted manure, in which a quantity of bone-dust has been mixed. Place the plants from eighteen to twenty inches apart, and during the summer season give them a weekly watering of weak guano-water. This watering should be thoroughly done, and the surface of the ground stirred with a rake or hoe the next day.

The Autumnal Flowering or Intermediate Stock is very highly prized on account of its flowering in the autumn. The varieties of this class form large plants, and produce their flowers in immense spikes—the two best varieties being the Covent Garden white and scarlet. In order to obtain a fine display, it is requisite that the plants should be strong when planted out in May. For this purpose the seed should be sown the first week in March, and the young plants given the same treatment as advised for Ten Week Stock. Their flowering bed requires the same preparation, and the plants should also be given the same treatment. They are also much prized as pot-plants, for spring blooming, and for this purpose the seed should be sown in a partially shaded frame, about the end of July, and as soon as the plants are strong enough, plant out on a well-prepared border. Before cold weather sets in they should be taken up, potted, and placed in the coolest part of the greenhouse.

The German Brompton Stock are usually divided into two sections—Brompton and Cocardeau. The Brompton forms bushy plants, with many branches, and when in full bloom produces a magnificent display. The Cocardeau produce a single flower-stem only, and are by many considered the perfection of a German Stock. They flower about the same time as the Intermediate, if given the same treatment, which is a very proper one for them.

The Imperial or Emperor Stocks, when well grown, form large bushes, and frequently continue to flower for several years. The seed, if sown early, will flower in autumn, while for spring flowering it should be sown in July. The treatment advised for Intermediate Stocks is also applicable to this class. When grown as pot-plants, the different varieties of German Stocks require an abundance of pot-room for their roots, a compost of two-thirds well-rotted sods, one-third well-rotted manure and bone-dust—well mixed. They also require to be freely watered, and once a week a weak liquid-manure water should be given. They should not be crowded together in the window garden or greenhouse; and as they are very subject to the green fly, care is required at all times to keep these pests in check. They do not require a very high temperature, but delight in a light, sunny situation.

CHAS. E. PARNELL.

Lawn and Landscape.

BORDERS OF SHRUBS.

Many gardens are too much exposed. It has recently become fashionable to remove fences, and grounds thus opened might as well be public property. There is no seclusion or privacy, and every movement about the garden can be observed. One of the charms of a garden is the air of seclusion which should prevail there. To secure that privacy which all who are fond of gardening certainly desire, we would suggest the planting of a border inside the fence. This border can be varied in depth, according to the size of the garden. It should be a little higher than the lawn, and the outer line should consist of graceful curves. In this border can be planted a variety of shrubs, dwarf conifers, hardy plants, etc., but no trees. The shrubs and conifers should be planted irregularly, from three to four feet apart—the taller ones nearest the fence, and the dwarf subjects near the margin. For a border six feet in depth I would suggest two rows of shrubs, the first consisting of the larger-growing ones, like Weigelia, Deutzia, Forsythia, Japan Quince, Viburnum, Cornus Variegated, Red Dogwood, Tartarian Honeysuckle, Lance-leaved Spiræa, Syringa, Althæa, Calycanthus, Plum-leaved Spiræa, Barberry, Dwarf Spruce, Pine, and Juniper.

For the second row, Deutzia gracilis, Mezereon, Dwarf and Golden-leaved Syringa, Tree Pæonies, Dwarf Double-flowering Almond, Prunus triloba, Dwarf Weigelia, Fortune's Dwarf White Spiræa, Plumed Hydrangea, Spiræa Thunbergii, Juniperus squamata, and Tamarisk-leaved Juniper. The outer edge can be formed of Funkias, Dwarf Phlox, Japan Spiræa, Evergreen Candy-tuft, Perennial Phlox, Forget-me-not, Lungwort, Soapwort, Sea Pink, Sweet Violets.

Between the shrubs, near the front, may be planted Lilies, Tall Phlox, and occasionally Hollyhocks.

All the shrubs and plants which I have named are perfectly hardy, and if properly pruned can be kept of moderate size and good form. This selection will furnish a constant succession of bloom from early spring till late in the autumn.

The border should be lightly forked every autumn, and all the plants contained in it will be much benefited thereby.

In small gardens this border may be omitted altogether, and those who desire their gardens more exposed can, instead of a fence, plant a few shrubs irregularly—allowing the grass to grow quite closely around them. When fences have been removed along an entire street or avenue, the lines of each lot may be marked by planting shrubs, in this way relieving the lawn of that nakedness which would otherwise prevail.

Shrubs grown in a cultivated border thrive much better than they do grown in grass, and the border is, therefore, preferable.

Borders like the one above referred to may be formed at the sides of the garden, concealing division fences, if there be any. In these borders a great many varieties of shrubs may be employed, which during the summer will afford an unlimited amount of pleasure. In the smallest gardens this mode of planting may be adopted, leaving the center of the lawn open, without a single tree or shrub.

Fine effects may be produced if neighbors would unite and form a double border instead of fences, planting the taller shrubs at the center, and the smaller ones at the outside, varying the sky outline by the introduction of a tree at intervals. In these side borders it is always well to employ shrubs that will not become too large, though any shrub by proper pruning can be kept small. This is the great advantage we have in dealing with shrubs, and when we find that they become so large as to conceal too much, they can easily be cut back. While a certain amount of privacy is very desirable, it is not pleasant to be too much confined, and in arranging these borders this point must be kept in view.

In medium-sized places, a few trees may be planted on the lawn. These should have a position at the side, rather than in front, as the view from the windows of the house should never be interfered with. Often only a single tree can be admitted—perhaps a handsome Cut-leaved Birch, Oak-leaved Mountain Ash, Purple Beech, Cut-leaved Beech, Youngs's Weeping Birch, or Weeping Cherry. All of these form beautiful specimens, and if a little care is bestowed upon them, each one when it attains age will be a picture in itself, always attractive and pleasing. Sometimes shade is required, in which case it is necessary to plant large-growing trees within twenty feet of the house. I know of no tree which affords shade so quickly and withal is so handsome as the superb Elm. Groups of dwarf conifers may be introduced on lawns, such as the dwarf Norway Spruce, the lovely Juniper, compact Arbor Vitæ, Tamarisk-leaved Juniper, Dwarf Pine, and Golden Yew. All of these are hardy, and when planted three together irregularly, or in the shape of a triangle, from three to five feet apart, will in time look pretty. In small grounds it is difficult without seeing them to say where these groups should be located. The situation must be studied, and nature imitated as far as possible.

Thus far I have not referred to flower-beds in lawns. It is a common practice to make beds of Geraniums in the center of a lawn. If the style of gardening which I have suggested be carried out, a flower-bed of this kind would be out of place.

Geraniums and other bedding plants may be employed to advantage close to the house, and can be cultivated either in beds or in borders. A fine border of mixed plants, consisting of Tea Roses, Heliotrope, Double Feverfew, with Coleus and Centaureas intermingled, presents a beautiful appearance, and is very useful for cut-flowers. Being near the house they are easily accessible, and do not detract from the beauty of a lawn. The edges of groups and borders of shrubs are beautified by the use of such plants. We cannot admire great masses of Geraniums, but employed as they should be, they enliven a garden, and may be considered indispensable.—*Wm. C. Barry, in an address before the American Association of Nurserymen.*

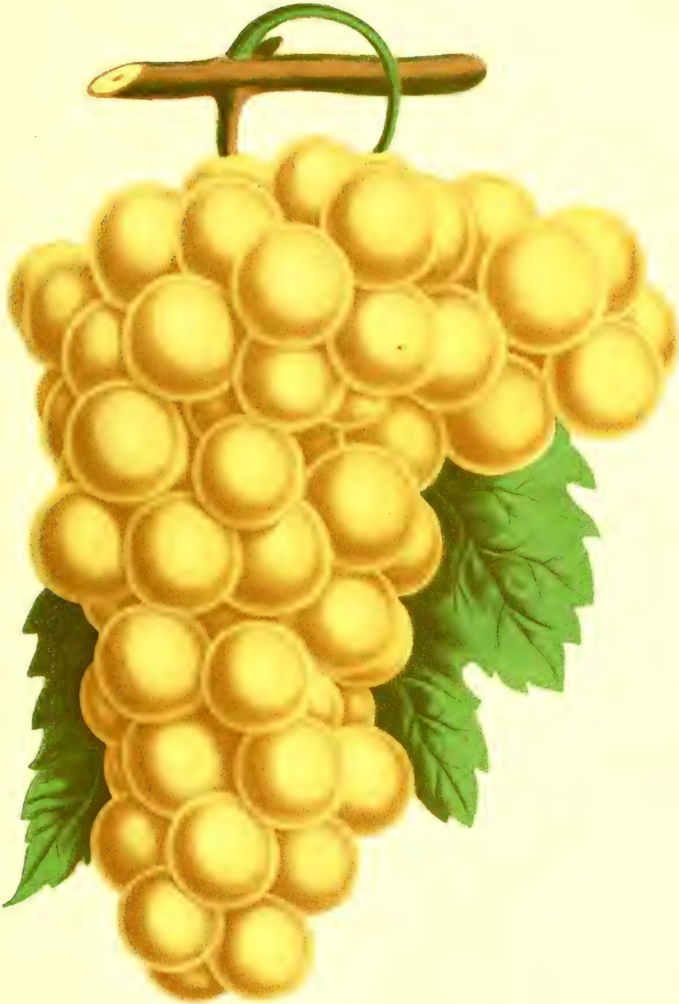
EVERGREENS planted singly on the lawn, or in natural groups, not too near the dwelling, appear to best advantage in winter, when deciduous trees and shrubs are defoliated. Plans for future plantings of this kind can be made now better than at any other season ; groups should be marked out and stakes driven in the ground where trees are to be planted.

The Window Garden
AND GREENHOUSE.

WINTERING HOUSE-PLANTS.

No branch of the gardening art is attended with more varying success than the care of house-plants during the winter season. Some persons seem to have an intuition as to their proper treatment, and are invariably successful, having not only plants with healthy foliage, but also a fair show of bloom to enliven the winter months, while others equally anxious, and sparing no pains to attain the same result, are unsuccessful. A suitable selection of plants for the purpose of house-culture is of the first importance. For a beginning, I would recommend Azaleas, which, although nearly or quite deciduous, amply repay for this defect by their lovely flowers. Almost any of them are good, but none are better for hardihood, robust growth, and showy flowers than the old Azalea alba and A. phenicia. Begonias are exceedingly useful winter-flowering plants. The best for the purpose are B. Weltoniensis, B. Saundersi, B. nitida, B. glaucophylla, and B. hybrida floribunda. Zonale Geraniums, of course, will be included, but some of these are preferable to others for winter flowering. The new Ivy-leaved Geraniums should also be included. Fuchsias in general are not to be recommended, excepting F. speciosa and a few other allied winter-blooming sorts. Oxalis floribunda is a very pretty species, giving a profusion of flowers throughout the season. The list can be extended by including monthly Carnations, Cyclamens, Abutilons, Epiphyllums, Jasminum grandiflorum, etc.

Plants intended for house-culture should be repotted and well established in the autumn, before the season for housing them, in order to secure the best conditions for flowering. The necessity of giving them fresh air every fine day is well understood, but oftentimes great injury instead of benefit results from the manner in which it is done—by raising the window. A draught of dry air, not unfrequently much colder than the ordinary temperature of the room, striking the pots, quickly dries them up, and, chilling the roots, gives a sudden check to the growth of the plant, causing its leaves and buds to shrivel up and drop off. Where ventilation has to be given by raising the window, instead of lowering it, the pots should be protected by placing a piece of board in front of them where it is possible to do so. But, when plants are placed on a stand, one above another, where that mode would be impracticable, the current of dry air could be arrested by having a wire screen, such as is now largely used as a protection against flies and mosquitoes, placed in the window. Where saucers are used under the pots, care should be taken that no amount of water should remain in them after thoroughly watering the plants. This rule, however, does not apply to Callas and other aquatic plants. Even when Abutilons, and other strong-growing plants, have filled their pots full of roots and require a great deal of water, it is better to supply them frequently than to have them standing in a pool. Care must also be taken in watering plants not to use the water cold, as it comes from the well or cistern, but to add sufficient hot water to raise the temper-

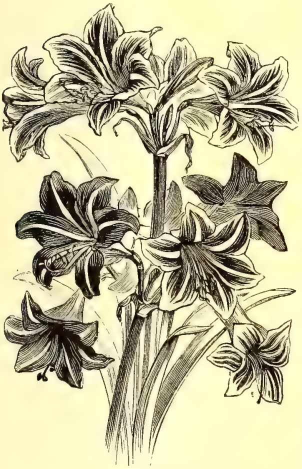


THE "GOLDEN" POCKLINGTON GRAPE

Supplement to
"The American Garden."

ature to that of the interior of the apartment. Attention to this rule is a necessity to successful cultivation. The leaves of the plants should be frequently moistened, and kept scrupulously clean from dust and insects, whenever necessary, by frequent spongings. For moistening leaves the little instrument called an atomizer is very useful, as a fine spray of water can be distributed by it over every portion of the plant without wasting it over the floor or carpet.

Instead of a miscellaneous collection of window-plants, a few climbing-plants, trained on a lattice-frame of wood or wire, have a charming effect. It is the better plan, where this is desired, to provide a box of suitable size in length, and about five or six inches deep, taking your plants out of their pots and placing them in it, first putting sufficient drainage in the bottom to allow surplus water to pass through auger-holes bored in the bottom of the box for the purpose, and filling up the spaces between the plants with proper soil, being careful to firm it well in every part by a blunt-pointed stick during the operation of filling.



AMARYLLIS VITTATA.

Ivies are always a favorite for this purpose, both green and variegated leaved varieties. Ivy-leaved Geraniums are desirable for their beautifully marked leaves as well as flowers. Begonia nitida, and other rampant-growing species or varieties, are also desirable. Tropæolum lobbianum or some of its varieties give an abundant bloom throughout the winter. Euonymus radicans variegata would make a capital plant for that purpose. Campsidium filicifolium would probably answer well, as it is free-growing, and its foliage is truly elegant; Ampelopsis Veitchii would probably retain its foliage, and if so, would be an elegant plant for its foliage alone. Vinca major variegata, Maurandia Barclayana, and Ficus repens are all suitable.

Now, these hints are given to enable those who, never having had experience, are desirous of trying to decorate their winter homes, and while offered in the hope that they may aid the beginner, still, study of the special needs of each plant, tact, and care are necessary to success.

* * *

EXPERIENCES WITH AMARYLLIS.

This beautiful genus of plants is generally considered beyond the successful management of the ordinary amateur, but several years' experience, and especially that of last winter, has convinced me of the contrary. With no greenhouse or conservatory, and only windows, with south and west exposure, in my dwelling, I began my collection about six years ago, gathering slowly, as some of them were expensive luxuries; and last winter I have been reaping a rich reward for my faith in them as house-plants, despite the efforts of Jack Frost, which stripped those growing of their leaves in December. These same bulbs produced afterward one and two flower-stalks.

After the "cold wave," which carried with it a choice collection of plants, I was so anxious to see the extent of injury to my favorites that I gradually brought nearly all of them into our warm living-room, and have been delighted to find all so treated not only ready to grow, but also to bloom—the flower-stalks outstripping the leaves in growth. Have had Amaryllis blooms since January. The first ones, however, were on plants not exposed to the frost. Of the frozen ones, the leaves snapped off like glass. I mention these facts to show the degree of cold some varieties will bear, notwithstanding the general opinion that they require near hot-house treatment to bloom successfully. Some, however, are more tender than others. *A. vittata* and *Regina*, for instance, having received the same treatment as others, have made a much slower growth and shown no signs of bloom. *Johnsonii* and some varieties of *Aulica* came in stronger, and made a more rapid growth than others. "Prince of Orange," a seedling of *vittata*, came on finely, and had two stalks, bearing four flowers each. After the frost I cut off all leaves just above the neck of the bulb, immersed pot and all in cold water, allowing it to remain for some time, and then turned the pots on the side, to drain well and dry off, in a moderately warm place. After a week or so, I found the bulbs solid, and treated them as described—being too anxious to see if they had received any serious injury to wait longer, as I had given up all hope of seeing them bloom, and only wished for life. I was agreeably surprised to find not only life, but in most instances flowers.

As to culture after blooming, I will say here that much of the future usefulness of a bulb depends on a strong, healthy growth just after it has flowered. Many fine bulbs deteriorate in the hands of amateurs from no other cause. This fact is applicable to other bulbs as well as Amaryllis; therefore healthy growing leaves should never be cut off, but allowed to remain until they begin to turn yellow and wither—conclusive evidence that their mission is accomplished—and they readily detach from the bulb.

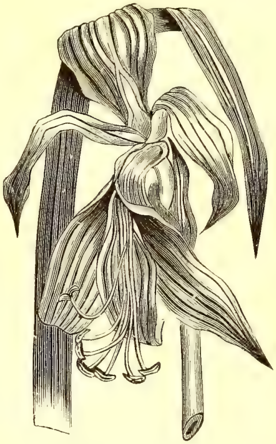
Rest is also essential. After the leaves have attained their full growth, it is well to gradually withhold water, and allow bulb and foliage to ripen and remain in the dry state until it is desired to bloom them. When starting into growth, water must be given sparingly for a time.

Amaryllis formosissima, Jacobæan Lily, with its velvety, scarlet flowers, is generally planted in the open ground in early spring, but may also be grown in pots, and treated like Dutch Bulbs, when it makes a most beautiful house-plant. Mrs. S. C. Harrell.

FERNS AS HOUSE-PLANTS.

Ferns for window-plants should be such good-growing common sorts as cannot fail to give satisfaction; the finer and more delicate kinds, and those requiring special treatment, should not be attempted unless we are prepared to give them the care they demand. A well-grown, thrifty Fern is always pretty,—a scraggy, sickly thing is a miserable-looking plant indeed. You can grow your Geraniums, Fuchsias, Mahernias, Pinks, Mignonette, Petunias, and Oxalis in your sunny windows; Ferns do not like such quarters, but prefer the very quarters those flowering plants don't like—namely, sunless windows. Ferns like lots of light and to be grown near the glass, but they dislike direct sunshine. Ferns may be grown separately in pots, or baskets, or in the same pots as Calla Lilies and other window-plants.

Soil for Ferns.—Ordinary observation will teach us that different Ferns require different soils: for instance, we go into the woods and find the little Spleenworts growing in the chinks of rocks, the Virginian Chain-fern in wet swamps, the Hart's-tongue under limestone cliffs, the Sensitive Fern in wet meadows, and evergreen Acrostichums on the hill-sides. Then, again, in California and Colorado we find little farinose and crispy-leaved Ferns growing in open rocky and gravelly places, and so on. For ordinary Ferns I should advise a compost of turfy loam with the finest stuff sifted out of it, old-leaf soil and peat (that is, if you have upland peat; but if you have not, do not use any) in equal parts, and some sharp sand. Gross-growing Ferns like a little manure. Some pounded charcoal is a good addition to the soil.



AMARYLLIS FORMOSISSIMA.

Watering Ferns.—Give Ferns lots of water at all times. The soil should be of such a porous nature that superfluous water will run off as fast as received, but care should be taken not to over-water the plants. Ferns like to be dewed overhead; gold and silver and some Maiden Hair Ferns, when they become old plants, had better not be watered overhead, but young ones of them are assisted by dewing. In mild, showery weather in spring put out your plants to get the shower; it will do them good; but take them in again. Wm. Falconer.

BOOKS AND PAMPHLETS RECEIVED.

Synopsis of a Course of Lectures on Practical Fruit-Culture, delivered at the Ohio State University during the fall term, 1881, by Prof. W. R. Lazenby.

Eighth Biennial Report of the Trustees, Superintendent, and Treasurer of the *Illinois Asylum for Feeble-Minded Children*, at Lincoln, Ill. Dr. C. T. Wilbur, Superintendent.

Farmers' Reference Book.—A small pamphlet, published by *A. A. Harrison, Omaha*, contains, interspersed with various advertisements, some useful tables and matter of general interest.

Quarterly Report of the Kansas State Board of Agriculture, for the quarter ending September 30th, containing reports as to the condition of grain and other crops, farm animals, etc.; also statistics and experiences relating to Horticulture, Agriculture, etc. The future Reports of the Board will be edited by Mr. F. D. Coburn, who succeeds Colonel J. K. Hudson in the Secretaryship.

Bulletin No. 3 of the New York State Agricultural Society.—This society is doing a good work in collecting these statistics, which are of considerable value, not only to those living in the State, but to farmers generally. The replies to the questions concerning the Corn and Potato crops have almost all been definite statements of the proportionate reduction of this year's as compared with last year's yield. Correspondents generally characterize the drought of the late summer and autumn as one of the longest and most severe ever known.

Journal of the American Agricultural Association, *Nos.* 3 *and* 4, edited by J. H. Real, Secretary.—This volume contains two hundred and sixty-two pages, and is as handsomely and attractively gotten up as the preceding one. Among its many valuable articles are a description of Th. A. Havemeyer's Dairy and Stock farms, by F. D. Moulton; Ancient Husbandry, by Prof. J. M. McBryde; the Experiment Farm of the *Rural New-Yorker*; Agricultural Education in Bavaria, by Prof. R. B. Warder; Relation between Seeding and Quality in certain Vegetables and Fruits, by Dr. E. L. Sturtevant; Agricultural Instruction for the Young, by Dr. Byron D. Halsted; Electro-Horticulture, by Dr. C. W. Siemens; Sheep Husbandry in the South, by J. H. Moore; and a large space is devoted to the discussion of "The Railroad and the Farmer."

A Glimpse at Michigan Horticulture, by Charles W. Garfield, Secretary of the Michigan State Horticultural Society.—A plain and interesting account of the fruit lands of Michigan is given in this neat pamphlet. The extent and increase of the State's fruit productions is shown in carefully prepared tables. The shipments to Chicago *via* the C. & W. M. R. R. alone amounted last year to nearly two million quarts of Strawberries, 401,483 half-bushel packages of Peaches and Grapes, and 57,405 barrels of Apples. The beauties of the country and its advantages for fruit-growing are clearly described, closing with the statement that "the old derisive songs that told of ague, marshes, rattlesnakes, and wolverines as the natural products of Michigan are not sung any more; and none visit the peninsular State who do not go away with pleasant accounts of her climate, soil, productions, and people."

The New Botany, a Lecture on the best Method of Teaching, by Prof. W. J. Beal.—In this highly interesting lecture Prof. Beal explains briefly the immense revolution which has taken place in the methods of teaching and studying botany and all natural sciences since the days of Aristotle and Pliny, and even since "the father of Botany," Linnæus. While even as late as forty years ago Botany was usually only considered a pleasant and proper pastime for young school-girls, and, as generally pursued, consisted mainly in learning from a book the forms and names of roots and stems, leaves, inflorescence, and the several parts of flowers and fruits, the Botany of to-day is studied from the ever open and living book of Nature herself. The student commences his studies with observing and discovering for himself what was formerly made a matter of memorizing only; he becomes in a measure the author of his own text-books, and an independent observer and experimenter. In this way, young students not unfrequently make discoveries new to science. Technical terms, which are generally so disheartening to beginners, are only given as a need is felt for a name or definition, so that the learning of these does not become tedious. Little stress is placed on investigating a number of chapters in a definite order, as given in text-books, but no topic is abandoned till its various forms have been thoroughly studied. The lecture itself is such a model of condensation of the vast material it treats of, that it is difficult to condense still more even its most important points only in a short review. To those who have not followed the marvelous progress in modern science, the careful reading of this lecture offers an unlimited amount of material for thought.

ANSWERS TO CORRESPONDENTS.

Mapes's Fertilizers.—*Subscriber, Millerton, N.Y.*—Mapes's Fertilizers are as reliable as any in market. We have used them for years, and are well satisfied with their results.

Moore's Ruby Currant.—*H. K., Leroy, N. Y., and others.*—As stated in our last issue, no plants will be for sale before next fall. Those owning the stock will probably advertise in this paper as soon as they are ready to fill orders.

Crystal White Wax Bean.—*H. S., Brandon, Wis.*—This Bean has *white* seed, and is quite distinct from the Black Wax Bean. Its pods are waxy, transparent, as stringless as a Bean can well be, and of good quality. It ripens very early, and is altogether a most valuable variety.

Anemones.—*E. W., Deerfield, Mass.*—In a sheltered position, and in naturally or artificially drained soil, Anemones may be wintered outdoors without risk. They have to be well covered at the approach of hard frosts. Dry leaves and evergreen boughs make an excellent protection.

Fall Planting.—*Mrs. C. H. D., Georgetown, D. C.*—Hydrangeas and most hardy shrubs may be transplanted during the fall months, and where the soil is dry and easily worked, this season is in some respects to be preferred. In heavy, cold soils, however, and where water may stand on the surface during winter, spring planting is more advisable.

Propagating Quinces.—*F. H. W., Guernsey Co., O.*—Quince seed should be sown very early in spring; it sprouts readily after being soaked in warm water. The seedlings, however, will not be of the same kind as the parent tree—some may be better, but most of them will be inferior. The propagation of improved varieties is accomplished by layers or cuttings.

Cultivators and Seed Drills.—*R. W. B., Chester, Pa.*—Hand and horse cultivators are used by all extensive market gardeners. Seed drills are in use more on farms than in market gardens. Hand-sowing, although much more expensive, is found more reliable by market gardeners, who not seldom pay more for rent and manure of one acre of ground than many a farmer for a hundred-acre farm.

Injurious Insects in the Grapery.—*Reader, O.*—The green fly and thrip can easily be destroyed by syringing the vines with the following mixture: one gill kerosene, two pounds whale-oil soap, one pound tobacco soap, eighty gallons water. Also against the red spider and mealy bug this is a better remedy than sulphur fumes. For destroying aphis and thrip, fumigations of tobacco-stems will be found very effectual.

Chicken Cholera.—*D. T., Wacoochee, Ala.*—Pepper or Blue Pills are the most renowned remedies for Chicken Cholera, yet in fully developed cases there is little help. Preventives are more effectual. Sulphur, in small quantities, mixed with the food, is very good; broken charcoal kept in a box in the yard is also beneficial to the health of fowls. "Imperial Egg Food," given occasionally, keeps poultry in good condition, and is probably as good a preventive against disease as anything.

Ornamental Weeds.—*H. L. T., Upton, Mass.*, sends a plant for name which he does not find described in seed catalogues. He says it has a very pretty leaf, green, striped with white; some have red and some white blossoms; it makes *a very beautiful bedding plant*; is very hardy, and spreads rapidly. Our correspondent must be a lover of plants, indeed, and it seems almost cruel to tell him that this "beautiful bedding plant" is nothing more nor less than *Lamium amplexicaule* (Dead Nettle), a common weed of Europe, which is rapidly becoming naturalized here, and has already become a troublesome pest in some localities. Nevertheless, when growing in rich, damp ground, the plant is very pretty, and who can tell but fashion may yet raise this lowly weed as high in the social scale as the Daisy?

Horse-Radish.—*I. C. P., Macon, Ga.*—Market gardeners near New York raise Horse-Radish as a second crop by planting it between rows of Early Cabbages, Beets, Cauliflower, etc., so that after these crops are removed the Horse-Radish occupies the entire ground. In this case the sets are planted two feet one way and eighteen inches the other, requiring about fifteen thousand per acre. In field culture more room may be given, making the rows three feet apart and planting the sets eighteen inches apart, requiring about ten thousand sets per acre. After the rows are marked out, holes are made at the proper distances with pointed sticks, the roots dropped in these and covered so as to be about two inches below the surface. During the first months the ground is well cultivated and kept free from weeds; during the latter part of the season the tops and leaves grow so rapidly and spread so much, that cultivation becomes unnecessary. Horse-Radish, to do its best, requires a deep, mellow soil and an almost unlimited amount of manure.

MISCELLANEOUS.

Southern Fruits and Vegetables.—Market gardening at the South, for the supply of Northern markets, is thus far only in its infancy, yet the shipments from Charleston to Northern markets last year amounted to 823,544 quarts of berries, 32,230 barrels of Potatoes, and 90,514 packages of vegetables.

Shrinkage of Wheat.—A series of experiments, made by Prof. E. M. Shelton upon the Kansas Agricultural College Farm, disprove the popular belief that grain shrinks in the bin from evaporation when put up entirely dry. In fact, the experimental sacks, containing two hundred pounds of Wheat each, increased in weight from one-half to a full pound during a storage of seven months.

Railway Gardening.—The value of keeping the surroundings of railway stations neat and tastefully planted with flowers, as a means of developing horticultural taste, can hardly be overestimated. Several companies have spent considerable sums for this purpose during the past summer. A plan which seems to work very satisfactorily has been adopted by the Boston & Maine R. R. The company allows its station agents $10 a year each for seeds, plants, etc., and in addition offers prizes of $50, $30, and $20 to the agents whose stations are best kept and present the neatest and most attractive appearance.

Poisonous Perfumes.—Adulteration in perfumes is carried on to an enormous extent here as well as in Europe, and as long as no injurious substances are used in their manufacture, not much harm is done by their use. But when these so-called perfumes are only poisons under fictitious names, some stop ought to be put to their sale. Recent English papers report a case where a little girl had bought some Heliotrope perfume at a bazar, and had applied it on her face. This caused a vesicular eruption, swelling, itching, and in fact erysipelas, which lasted for some time. The scent was made with some of the products of coal tar and not with the odoriferous principles of plants, thus acquiring its irritating properties.

Destruction of Historical Trees.—A few months ago, one of the most renowned and oldest botanical landmarks, the celebrated "Cypress Tree" of Sparta, in Greece, was destroyed by a band of gypsies, who left their camp-fires burning beneath its branches. The tree must have been nearly three thousand years old, for four hundred years before the Christian era it was already described by Pausanias as an old tree. It was seventy-five feet high, and ten feet in diameter near the ground. Our own "Big Trees of California" are much reduced in numbers and have barely escaped destruction by curiosity-hunters. And now we are informed that the once famous and extensive Cedar forest of Lebanon has dwindled down to the dimensions of a mere thicket, numbering about four hundred trees. To save it from complete destruction and preserve it at least in its present extent, Rustem Pasha, the Governor-General of the Lebanon, has issued a special ordinance, containing a series of stringent regulations calculated to check, if not quite to put a stop to, the vandalism and carelessness of most travelers. It is expressly forbidden to put up tents or other kinds of shelter within the district of the trees, or to light fires or cook any provisions in their vicinity. No one is allowed to break off a bough or even a twig from the trees. It is forbidden to bring any beasts of burden within the district. Should oxen, sheep, goats, or other pasturage cattle be found within the prescribed limits, they will be irredeemably confiscated.

California Fruits.—We are indebted to Messrs. Swett & Norcross, of Riverside, San Bernardino County, California, for a box of new Seedling Limes, to Mr. T. B. Cover for Washington Navel Oranges, Lemons, and Limes, and to Mr. S. B. Bliss, of the same place, for Grapes and Raisins—all the product of their orchards and vineyards. The beautiful appearance and excellent quality of these fruits surprised us, as well as all those who saw them at the meeting of the Horticultural Society, where we exhibited some of them. Riverside is a new fruit region, as yet but little known in the East, but if its fruit-growers can produce such fine subtropical fruits in quantity, and can ship them in as good a condition as these arrived, it will not be long before they will be favorably known in every Eastern market, and come in powerful competition with imported fruits. From the Riverside *Press and Horticulturist*, a bright and live weekly published by Mr. L. M. Holt, which was received at the same time, we learn that the settlement was begun but ten years ago, and that since the completion of the irrigation-canals, land which was formerly absolutely worthless finds now ready sale for from two to three hundred dollars per acre. It has been practically demonstrated that no section of California excels this region in the cultivation of semi-tropical fruits, and as the climate is delightful and healthy, and the settlement is composed largely of intelligent and wealthy people, a most promising future awaits this "Modern Garden of Eden."

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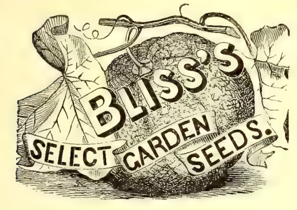

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Agriculture in the Tenth Census, by Hon. J. R. Dodge.
Agricultural Education in Bavaria, by Prof. R. B. Warder.
Ancient Husbandry—Rome and Her Provinces, by Prof. J. M. McBryde.
Address, by Francis D. Moulton.
Editor's Department.
Electro-Horticulture, by Dr. C. W. Siemens.
Experimentation Wanted, by Prof. J. P. Stelle.
Farmers and the Tariff, by Prof. Arthur L. Perry.
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Relation between Seeding and Quality in Certain Vegetables and Fruits, by E. Lewis Sturtevant, M.D.
Sheep Husbandry in the South—Cotton-seed as a Winter Feed, by J. H. Moore.
State and Other Society Reports.
The Dairy and Stock Farm of Theodore A. Havemeyer, and its Surroundings, by Francis D. Moulton.
The Experiment Farm of the "Rural New-Yorker."
The Fuel Problem on the Treeless Plains, by Oscar A. Mullon.
"The Railroad and the Farmer," by Hon. L. E. Chittenden.
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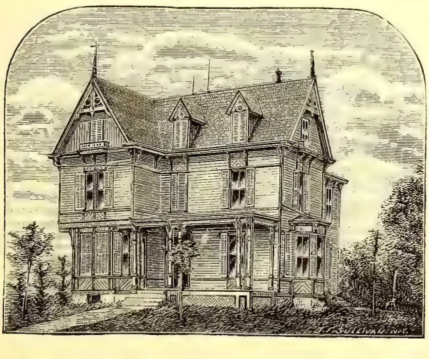
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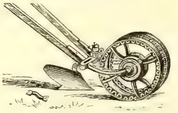

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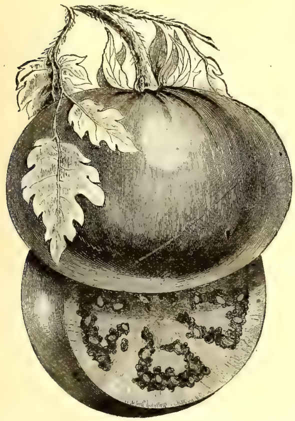

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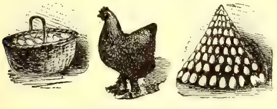

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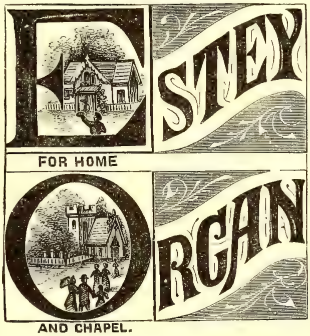

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Increase per acre	153 "	
At the time of digging they were worth $1.00 per bushel, making the increase $153.00.		
Cost of Mapes Manure per acre	$17.40	
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Net profit per acre from Mapes Manures, $132.60.		
A portion of the field was manured with barn-yard manure, fair dressing, and where Mapes Complete Manure was added the yield was, per acre	379 bushels.	
Barn-yard manure alone yielded	235 "	
Increase with Mapes Complete Manure	144 "	
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C. S. Grant, Bayville, Ocean Co., N. J., reports, Dec., 1881: I used the Mapes Manures alone this year for Potatoes, Cabbages, Beets, and general truck, and had the best yield I ever had, notwithstanding the dry season. Shall use them next year. My neighbors, who used stable manure, besides other patent fertilizers, had their vegetables, melons, etc., burned up by the dry weather. I was the only one in the neighborhood who had any vegetable crops worth naming.

S. P. Keator, Rosendale, Ulster Co., N. Y., reports, Dec. 6th, 1881: Soil, sandy loam; season unfavorable; 3 bags per acre of MAPES POTATO MANURE in the hill slightly covered with soil. Yield, 200 bushels per acre; quality good. I used the Mapes Potato Manure on a sandy soil the past season, and must say that I raised the finest potatoes of the Early Rose variety that I ever raised. They were free from worms, and the soil was light and sandy, still they yielded 200 bushels per acre, with no other manure.

R. E. Pinney, Suffield, Hartford Co., Conn., reports, Nov. 2, 1881: I have never been able before this season to raise potatoes on my farm, although I have tried many brands of fertilizers and stable manure also. This crop, grown with THE MAPES POTATO MANURE, is the best crop of potatoes I have ever raised.

Some Premium Crops, season 1881, at Queens County Agricultural Society Summer Fair, at Mineola, Long Island, grown with the Mapes Complete Manures.

Lettuce and Spinach	grown by John Breen.	Asparagus, 1st Premium	grown by Valentine Frost.
Early Potatoes	" H. Weeks.	" 2d "	" G. H. Townsend.
Early Peas	" T. Baylis.		

These last awards make seven Premium Crops of Asparagus grown with the Mapes Manure since 1878, exhibited at Queens County Agricultural Fairs, at Mineola, the section where there are so many of the well-known "Oyster Bay Asparagus" growers. The First Premium Crops of Cauliflowers, Cabbage, Savoy, Early Potatoes, and Seed Potatoes, at the same Fair, 1880, were grown with the Mapes Manures.

Orange Groves in Florida.—Dr. G. W. Lancaster, of De Land, Volusia Co., Florida, writes, October 27th, 1881: "I have used your 'ORANGE-TREE MANURE' on my groves the past year with the very best results. It surpasses all other orange-tree fertilizers I know of. It not only causes a vigorous, healthy growth, but it effectually cleans out all varieties of the scale insects peculiar to the orange-trees of Florida, probably because of its power of promoting health and vigor to the tree. Many tons will be needed in this locality next year." The "Orange-Tree Manure" is the preparation we recommend also for all nursery young stock, and small and large fruit-trees; also strawberries, grapes, raspberries, currants, etc., when vigorous growth is required without detriment to fruiting qualities.

THE MAPES MANURES are the CHEAPEST in the market, according to valuations by the NEW JERSEY AGRICULTURAL STATION, Prof. Geo. H. Cook, Director, New Brunswick, N. J.

From a circular just published by the New Jersey Agricultural Station we gather the following information, which may be of value to farmers. Of the brands of fertilizers best known in this community, the selling price per ton exceeds the estimated value in the following cases, the figures being the *excess of price* over estimated value per ton: Allentown Bone, $18.54; Commonwealth Bone Meal, $17.57; Smith's Bone Phosphate, $5.64; Stockbridge's Grain Manure, $9.30; Stockbridge's Potato Manure, $15.76; Star Bone Phosphate, $10.33; Star Guano, $13.51; Soluble Pacific Guano, $8.67. Two brands are estimated to be worth MORE per ton than the selling price, as follows: Mapes's A Brand, $1.94; Mapes's Corn Manure, $2.07.—*Hightstown (N. J.) Gazette, Aug.* 18, 1881.

Send postal for new pamphlet
(issued in February).

THE MAPES FORMULA AND PERUVIAN GUANO COMPANY,
Agricultural Chemists, 158 Front St. New-York.

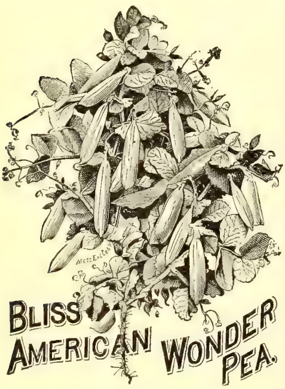
The Earliest and Best Dwarf Wrinkled Pea!

The Most Desirable

BLISS'S
AMERICAN
WONDER

Pea Ever Introduced.

Extra Early! Requires No Bushing!! Exquisite Flavor!!!



The best variety for forcing under glass, and the best for early sowing in the garden.

☞ On account of its exceedingly dwarf habit, it can be grown in Hot-Beds, like cucumbers or lettuce.

This new and fine-flavored variety is a seedling, the result of a cross between the favorite varieties, *Champion of England* and *Little Gem*, raised by Mr. Charles Arnold, the well-known Canadian agriculturist. It combines all the good qualities of both of its parents, with the additional ones of superiority in flavor to the Champion and of greater productiveness than the Little Gem, besides being earlier than any other of the wrinkled varieties. Peas planted June 5th were ready for the table in thirty-three days from date of planting. On good soil, each vine will average twelve pods, and each pod six peas. Twenty-seven to forty-one pods have been counted on some vines, and nine large peas in some of the pods, and every pod is well filled. The vine grows from eight to ten inches high, according to the soil and season. Having full confidence in the superiority of this variety, we bought the entire stock of the originator, and first offered them in the spring of 1878, since which they have been tested in various parts of the world, and have met with the unqualified approval of all who have given them a trial. For the past three years the demand has been far greater than the supply, and we have been unable to fill our orders.

CAUTION.—As there is another pea in the market called "American Wonder," be sure and call for "BLISS'S AMERICAN WONDER," and receive no other.

From **Rev. Henry Ward Beecher,** July 14, 1881.—Your peas are wonderful, none others so good. I do not mean to plant another year any others, early or late. They beat the Alpha in earliness, and out of sight in flavor.

From **Hon. Marshall P. Wilder,** *Pres. American Pomological Society, Ex-Pres. U. S. Agricultural Society,* June 30, 1881.—My AMERICAN WONDER *is a wonder,* equal in sweetness and richness to the Champion of England, which is all that could be desired.

One of our growers writes, August 25, 1881: Twenty-seven and one-sixth bushels of AMERICAN WONDER PEAS were grown from one bushel of the seed you sent, upon a trifle over an acre of ground.

PRICES.—One-third pint package, 20 cents; pint, 55 cents; quart, $1.00; by mail, post-paid. When delivered at our store, or sent by express at the expense of the purchaser: one pint, 40 cents; one quart, 75 cents; half peck, $2.75; one peck, $5.25.

B. K. BLISS & SONS, 34 Barclay Street, New-York.

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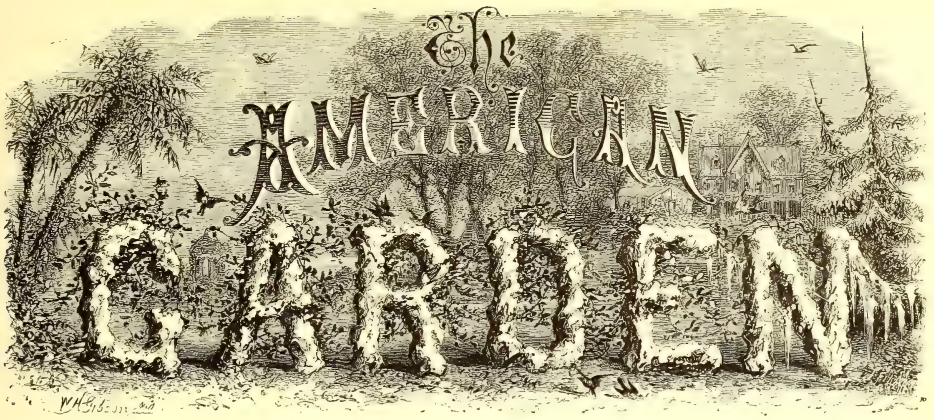

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A MONTHLY ILLUSTRATED JOURNAL.

Devoted to the Gardening Interests of America.

ONE DOLLAR A YEAR.

SINGLE NUMBER, 10 CENTS.

Dr. F. M. HEXAMER, - - Editor.

B. K. BLISS & SONS, Publishers,
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TO OUR READERS.

This paper is sent to many who have not heretofore been among our subscribers, with the hope that they will give it a careful examination which will, we trust, make them so pleased with it that they will become subscribers. We have endeavored to send it principally to amateur and professional gardeners, yet in some cases it will, no doubt, fall into the hands of persons who do not care for it. Will these do us the favor to hand it to some one interested in horticulture, and thereby not only oblige us but benefit their friends.

We invite and solicit the co-operation of every one who recognizes the need and importance of a first-class, popular Horticultural Journal. We do not rival with contemporaneous periodicals, nor compete for superiority, as there is to-day no publication that occupies the same field. But as there is no garden in which there is not room for better vegetables, choicer fruits and sweeter flowers, so there is in our horticultural journalism "plenty of room at the top." We simply found in this field an inviting niche which had not yet been occupied, and endeavored to fill it. How far we have succeeded our readers are more competent to judge than ourselves.

We shall strive with all the means at our command to improve and increase the usefulness of our paper with each succeeding number, so that no one who cultivates flowers, fruits or vegetables can well afford to be without it.

We extend the hand of fellowship to all who desire the promotion and improvement of the gardening interests of our land, hoping that while ready to do our part we may rely upon the kind assistance of our friends.

Every thinking man and woman who cultivates a garden has some ideas of his or her own, the result of experience and observation. Brother and sister gardeners, do not hide your light under a bushel, but let others share the benefits of your experience. No long treatises are wanted, a few lines that can be written on a postal card contain often more solid information than a closely written sheet of foolscap.

Our old readers need no assurance that our promises will be fulfilled; to our new ones we can only say: try us, subscribe for the American Garden and you will never regret it.

OUR PREMIUMS.

As some of our subscribers seem to have misunderstood the conditions under which our Premiums are offered, and for the information of new readers we repeat part of what was stated in our last issue.

Every subscriber to the American Garden is entitled to One Premium, and may take his or her choice of any One of them, viz., either

1 packet of Wild Garden Seeds; or
1 packet Improved German Stocks; or
1 packet Mayflower Tomato; or
1 packet American Racer Pea.

For description see advertising department.

No Premium Seeds are sent unless the subscriber, when sending his subscription or afterwards states which *one* of the four he wishes.

Any one who sends with his own another subscription may select two packages for himself, and any one who sends with his own two additional subscriptions becomes entitled to the *four* premiums, the two other subscribers receiving *one* premium each, as if they had subscribed for themselves.

PRESERVE YOUR PAPERS.

We trust that most of our readers do preserve their papers after having read them, but those who do not we wish to remind that they inflict a considerable loss upon themselves. The twelve numbers of the year kept on file will contain more practical horticultural information than can be found in any book for the same price, and together with the carefully prepared index, which we shall issue at the end of the year, will be a useful book for reference. A series of several years will constitute a valuable encyclopædia of gardening.

BACK NUMBERS.

Frequent inquiries are received for information which has been fully given in some previous numbers. In justice to those who have been our subscribers from the beginning we cannot discuss these questions so soon again. We have a number of full sets of all the Back Numbers of the American Garden quarterly that have appeared, and will mail the set of seven numbers for fifty cents, single numbers for ten cents. Valuable information pertaining to every branch of gardening is contained in each number.

The Vegetable Garden.

SEASONABLE HINTS.

With this month every forehanded gardener will commence the season's work in earnest, and those who have not already made ample preparations should lose no time to do so. It is surprising how much valuable time is lost during the busy season, when "every hour tells," in procuring requisites for the garden which might as well, if not better and cheaper, have been obtained during winter. *Bean poles, Pea brush, Tools, Seeds,* are of this class, and especially *Fertilizers.* When stable manure has to be brought from outside the premises it is best to procure it during winter when it may be carted on the land without packing and cutting up the soil. It should either be thrown into a solid heap, to be composted or forked over whenever it becomes heated, or be spread directly upon the land. In the latter case the fertility becomes evenly distributed over the entire surface and, unless the inclination of the ground should be very steep, no material loss can result. The most wasteful way of applying manure is to dump it in little heaps here and there, so as to have it convenient for spreading in spring. A large amount of fertility becomes thus washed out during winter and soaks in the soil beneath, surcharging it with nutriment, while of the heap, which was intended to fertilize the whole ground, there is little more left than dry stalks and litter. The benefits of decomposition, derived from a great bulk of manure are entirely lost in heaps so small that they cannot become warm enough to ferment.

Cold Frames need particular attention during this month. Air must be given on every sunny day, and when the temperature rises a few degrees above the freezing point, the sashes should be removed altogether during day time. Without this "hardening off," as professionals call it, plants grow tall and spindling and become of little value.

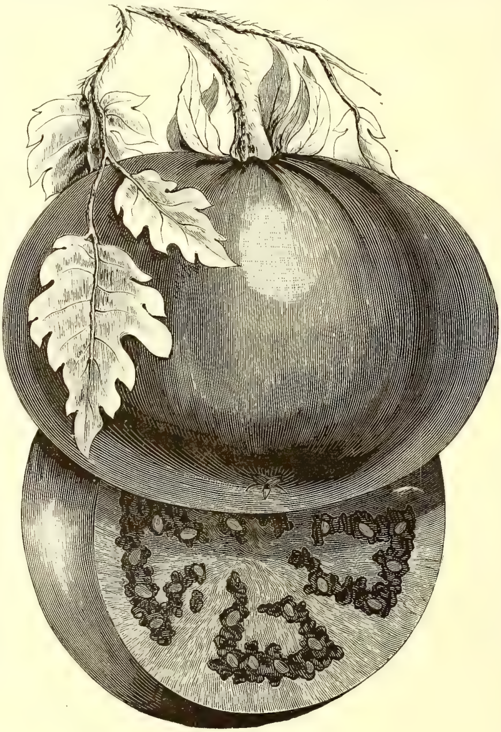
Hot-Beds are now considered indispensable in every good vegetable garden. The pleasure and often profit derived from a hot-bed are certainly worth many times its cost, and the labor bestowed upon it. In the latitude of New York the best time for making a hot-bed is from the middle to the end of February, or, to give a rule which is applicable everywhere, six weeks before it is thought safe to transplant Cabbages, Cauliflowers, Lettuce, etc., in the open ground. A few sashes and boards, and a load or two of fresh horse manure is all that is required. For very early hot-beds, it is best to dig a pit of the size of the frames and about eighteen inches deep. This is filled with fresh horse manure, and the boxes placed upon it. Later in the season the manure may be placed on the level ground, in which case more copious watering is required than with the excavated beds, which retain moisture longer.

THE MAYFLOWER TOMATO.

Those who have seen the Tomato grown as a garden vegetable only, to supply the wants of the family, can hardly be aware of the important position which it now occupies among market crops. In some localities, in fact, it rates in importance before any other product of the soil. This is owing to the immense quantities used in the canning factories, amounting in some establishments to over a million of cans a year.

The principal points to be desired in a Tomato are earliness, firmness, good, uniform size and shape, bright color, pure flavor, perfect ripening, good keeping quality and productiveness. To unite all these in one variety has been the aim of originators of new seedlings.

The Mayflower is the latest competitor among these claimants. It was raised by Mr. F. H. Hosford of Vermont, and after several years' trial considered superior, in several respects, to any of the older kinds. It is very early, ripening but a few days later than Little Gem, and averaging in size about one-third larger than Acme. It is of a glossy, bright red color, ripens evenly and completely up to the stem, is perfectly smooth and almost globular, slightly flattened; flesh solid, with few seeds, and of a rich pure flavor. Its productiveness and shipping qualities are claimed not to be equaled by any other variety. The Massachusetts Horticultural Society, at its last exhibition, held in connection with the American Pomological meeting, awarded the first prize for the best new Tomato to the Mayflower, which strengthened our opinion of it, and induced us to offer it as a premium to subscribers.



THE MAYFLOWER TOMATO

COMMERCIAL FERTILIZERS.

A knowledge of the most advantageous and judicious modes of applying concentrated or commercial fertilizers is as important as the selection of the proper kinds. As usually applied a large portion of their fertility remains unavailable or is lost altogether.

There is always more or less loss in applying fertilizers in their pure state, and far better results are obtained by mixing them, a few weeks before use, with four or five times their bulk of dry muck or soil. Thus their particles become more evenly divided and distributed and less liable to injure the germs of seeds, while at the same time their fertilizing properties become sooner available as plant food.

To obtain the very best results from concentrated fertilizers, however, they should be used in connection with stable manures, and not to "lengthen out" only as is usually the case. They should be scattered broadcast and harrowed in on land which has previously received a dressing of yard manure or they may be composted with muck and stable manure, worked over occasionally, and then harrowed in or applied in the hills. For gardening purposes and wherever fine seeds are used this mode is especially to be recommended. Numerous experiments could be cited to prove this truth. Those of our esteemed neighbor, Mr. Lewis Beach, a practical farmer, and careful experimenter, we have watched with considerable interest. His experiments extend through a series of years, all showing a decided gain from the combined use of stable manure and concentrated fertilizers. We give below the average yield of 1880 and 1881, which, these seasons having been exceedingly unfavorable in this locality (Westchester Co., N. Y.), falls rather below the ordinary yield.

The yard manure, in each case, was spread on the land and plowed under; the fertilizer was applied in the hills at the time of planting and lightly covered with soil before dropping the seed.

The cost of the yard manure as well as of the commercial fertilizer, labor of application included, was, in each case, twenty dollars per acre.

Yield per acre without manure, 154 bushels.
Yield per acre with barnyard manure, 203 bushels.
Yield with Mapes's complete manure, 258 bushels.
Yield with barnyard and Mapes's manure, 333 bushels.

The Potatoes, at the time of digging, were worth $1 per bushel, so that, after deducting the cost of the manure, the profits per acre were:

From yard manure alone, $29.
From Mapes's complete manure alone, $84.
From Yard manure and Mapes's combined, $139.

In other words, the additional outlay of $20, without more labor, produced in the latter case, an additional 75 bushels of Potatoes, yielding a net profit of $55.

Results will, of course, vary with different soils and seasons, but it is only through such experiments, which can easily be made by every one that we can learn the needs of our soil and the requisites for its successful cultivation.

MARKET GARDENING AROUND NEW YORK.

During the past twelve or fourteen years there have been many and marked changes brought about in the business of market gardening in the vicinity of New York and other large northern cities. Up to the date of the closing of our late civil war the bulk of all the perishable vegetables and fruits consumed in these large centers of population in the north and west were grown by gardeners who were located within short distances of these distributing points. The vegetables and fruits raised on an extensive scale by northern gardeners prior to 1866, would include Early Cabbages, Lettuce, Tomatoes, Onions, Beets, Peas, Beans, Celery, Horse-radish, Radishes, Cucumbers, and Early Potatoes. These, with the small fruits, constituted two large and lucrative branches of gardening which, of late years, have been seriously broken into by gardening in the south, where land and labor is cheap, and with the advantages of climate and cheap and reliable facilities of transportation, gives southern gardeners advantages against which, on many of the vegetables named, the northern gardener cannot compete. Under these circumstances the cultivation of many of these has been entirely given up because they cannot be raised with profit.

In order to give a clearer idea of the changes southern gardening has brought about I will state that previous to the war the Tomato was grown extensively and with large profit by professional market gardeners. The plan in general practice at that time was to sow the Tomato seed in a hot-bed early in February. These young plants were re-set in other beds, prepared for them, twice before planting in the open ground early in May, and by this time they were stocky and the bulk of them ready to bloom. The first ripe Tomatoes would reach market in July and they would sell freely at from four to five dollars a basket. These prices would slowly but gradually drop from week to week, until towards the close of the season, and when the price fell below fifty cents, the market gardener would stop picking. Things are very different now. Ripe Tomatoes raised in Florida and South Carolina reach our northern markets in June and those from Norfolk, Virginia, a month later, and when those grown in the vicinity of New York are marketable the prices have dropped to fifty cents a basket and half of that sum is usually the prevailing price unless in such instances as last summer when everything was burned up by the long protracted drought. This is a fair sample of the kind of changes southern gardening has brought about during the last few years, changing the whole system and leaving the margins of profit much less than they formerly were, even with the crops which are still grown on a large scale by northern market gardeners.

Among these, and in fact the leading one, is early Cabbage. The seed for this crop is sown in the open ground in the beginning of September, and the young plants are planted in frames early in November, where they are protected by sashes during the winter months.

In the spring, when the ground is dry enough to be worked it is heavily manured, with not less than one hundred two-horse loads of well rotted manure to the acre, and very often a third more loads are used. This manure is plowed under and the surface leveled and made smooth. The Cabbage plants are then set out in rows two feet apart and eighteen inches apart in the row.

Then there is a row of Lettuce set out between each two rows of Cabbages. The Lettuce plants are set a foot apart in the row; of course these are kept in frames through the winter. The work from the time of planting until the crops are matured is done with hand hoes.

The Lettuce is marketed in June and the Cabbage in July. The ground is plowed just as soon as the Cabbage crop is taken off, giving it a top dressing of guano or superphosphate of lime, at the rate of half a ton to the acre, and then smoothed off and planted with Celery. These are planted in rows from two and a half to three feet apart, and the plants in the rows from five to six inches.

Through the months of August and September, at intervals of ten or twelve days, a horse cultivator is run between these rows of Celery, and when necessary the plants in the rows are gone through with hand hoes, often enough to keep the ground loose and free from weeds. Later in the season, say the first of October, gardeners begin to draw the soil towards the Celery to start the process of bleaching. This is continued until the close of the growing season, when the Celery is stored in narrow trenches for winter use.

Before southern competition began it was not an unusual thing to get $1,000 gross receipts from an acre of ground planted in the way described. But of late years the profits on these crops have been cut down materially because large quantities of early Cabbages are shipped to New York and other northern markets, from the south, in advance of the ripening of our crop. The same is true with Peas, Beans and Cucumbers. Northern markets are abundantly supplied with these, weeks before the crop here is ready for sale, so that fancy prices for the vegetables named, grown north, are a thing of the past. P. T. Quinn.

THE ONION SMUT.

The Onion is one of the leading crops in many localities in the eastern states and in some of them the culture of this vegetable, has—within the last ten years, greatly diminished, and has even been abandoned because of the destructive prevalence of the Onion Smut. This pest is closely related to the Corn Smut, and makes its appearance upon the Onions while they are quite small. The smut plant in its early stages of growth consists of a multitude of small filaments or threads collected in knobby masses within the tissue of the Onion bulb and narrow parts of the leaves just above the bulb. A little later the epidermis or skin of the leaves bursts open and a vast number of dark brown particles of dust are found, which are the spores of the fungus. The Onion is still small when the spores are produced and it seldom continues to grow.

It is thought by those who have investigated the trouble that the smut has come from the wild Onion or Garlic, and this suggests as a precaution that all of the wild Onions should be destroyed. When the smut plant has perfected itself and ripened its myriads of spores, the soil becomes more or less charged with these *seeds*, and spores are seeds as far as their functions are concerned, of a destructive pest, and give truth to the expression often heard among afflicted Onion growers, that "the disease is in the ground." A remedy is always the desired thing when there is any disorder. If the spores have already infested the ground they must be destroyed. The best way to do this is to cease growing Onions on that land for a term of years sufficient to exhaust the vitality of the dormant smut spores. Put other crops on the land and after about six years it will be safe to try Onions again.

The Onion smut is still somewhat limited in its range and every precaution should be taken to keep the pest from getting widespread. Great care should be exercised in not taking seed from a smutty locality. The spores being very small they may cling to the rough surface of the Onion seed and be sown with it. As a precaution soak the seed, that the water may remove, as it will, many of the adhering spores.

Onions grown from sets are not so much troubled with the smut as those from the seed. It is probable that the tender substance of the young seedling offers much more favorable conditions for a successful growth. It is a fact of general application that the stronger (and it would seem as if even young Onions were strong enough) the plant, the more vigorous its growth the less liable is it to attacks from fungi. Dr. Byron D. Halsted.

KEEPING POTATOES.

When very large quantities of Potatoes have to be stored for a short time or even during the entire winter, out-door pits may be resorted to, but for convenience of handling and the facility with which they are accessible at any season, a good cellar is worth more than the best of pits. A Potato cellar should be so constructed that the floor is entirely dry at all times, that frost and light can be excluded completely and that perfect ventilation of every part can be given rapidly, sufficient to keep the air pure and the temperature as low as possible without falling below the freezing point. Although Potatoes do not become spoiled by a few degrees of cold, especially when they are dry, their eating quality as well as their germinating power do certainly deteriorate when exposed to a temperature below 30 degrees. In cellars not entirely frost proof the heaps should be covered completely with old carpets or matting and these with six inches of straw or hay. Such a protection will afford safety against almost any amount of cold possible in a cellar. When the weather becomes warmer, the windows and doors should be kept closed in day time and opened during night.

FORCING RHUBARB.

At any time during winter, when the ground is not too much frozen, a few clumps may be lifted—taking care not to injure the roots more than is unavoidable—and moved with as much soil as can be made to adhere, to the warmest part of the cellar-floor, underneath a window if feasible. Fine soil should be shaken between and over all exposed roots, and the whole covered with loose straw or hay. An occasional sprinkling with tepid water, soon forces the stalks into growth, which although not as large as those grown out-doors, are more delicate and furnish many a dainty dish, at a season when no other fresh vegetables are obtainable.

AMERICAN POTATOES IN EUROPE.

Of the eight First Class Certificates awarded for Potatoes, by the Royal Horticultural Society of England, six were given for American varieties, viz.: *Adirondack*, *Queen of the Valley*, *Matchless*, *Vermont Champion*, and two unnamed *Seedlings* sent by B. K. Bliss & Sons. Second class certificates were awarded for *White Elephant*, *St. Patrick* and *Trophy*.

The Fruit Garden.

SEASONABLE HINTS.

Those who contemplate setting out small fruit plants or fruit trees should lose no time to perfect the preliminary arrangements upon which the future success of the fruit garden depends in a great measure.

In many cases it will be found more satisfactory in every respect to plow under the old apology of a fruit garden and start on new ground with improved varieties, than to try to patch up and revive a worn out plantation of worthless kinds ; to consign to oblivion the little square patches of Strawberries and other fruits scattered about the garden without system, and substitute long straight rows from which better results are obtained with less labor.

The Selection of Varieties presents to many a momentous difficulty. They are so afraid of not being able to choose the best kinds or not to receive what they want, that they hesitate, wait, and often delay ordering plants till the proper season for planting has passed. Any one at all familiar with the marvelous improvements in fruits during the past half century, and especially the last twenty-five years, must be aware that the number of first-class varieties is now so great that no one who makes the raising of plants a business can afford to cumber his ground with inferior kinds, which cost just as much to produce as the best. There is no difficulty in obtaining the latter, as good

Nurseries are found in almost every fruit growing section and with improved methods of packing and our excellent mail facilities, plants can be sent cheaply and safely to any part of the country.

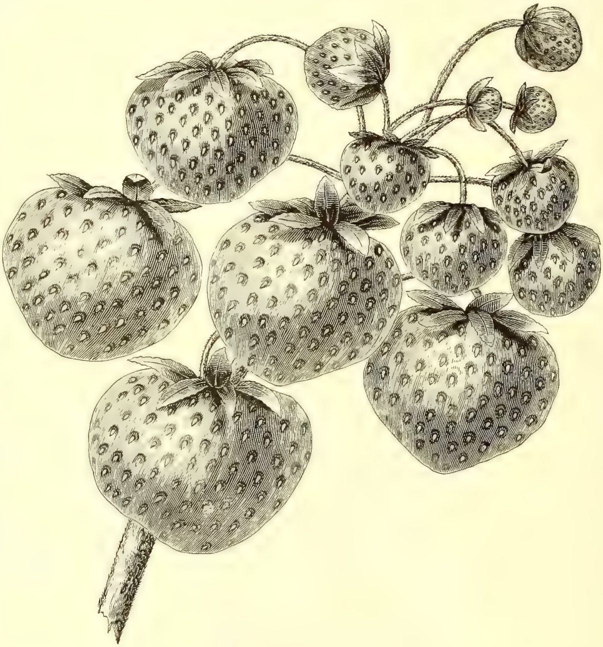
Nurserymen who have an established business and a good business reputation, are as anxious to satisfy and please their customers as the dry goods merchant and grocer, so that those who are not themselves acquainted with the most desirable varieties of fruits will generally find it to their advantage to inform a reliable nurseryman of the number of plants and trees they wish to set out, the size of the ground, the character of the soil, the kinds they have already and do not want, and then leave the selection of varieties to him. No one who orders of those whose advertisements are found in the *American Garden* need fear to be cheated. With many of our *advertisers* we are personally acquainted, and all of them we believe, will do what they promise.

Tree Peddlers, as a class, are generally hooted down as frauds and swindlers. We do not participate in this indiscriminate condemnation, knowing that there are as respectable and honest men found among traveling tree agents as in any other business, and rogues likewise.

THE MANCHESTER STRAWBERRY.

On the 8th of June last my fellow passenger on a down train of the N. Y., N. H. & H. R. R. proved to be an old cultivator of Strawberries. —a man of "three score and ten," I should judge, yet full of life and interesting stories of his beds of Wilson's Albany twenty years ago, when the fruit was sent to Boston at 40, 50 and 60 cents a quart, and the demand was far in excess of the supply. He sighed for the good old days gone by and asked, "What variety is there now that will ship as well as the old Wilson that is large enough and good enough to sell at paying prices in the first-class markets of the present day? If you know of such a berry I would like to know the name of it."

I told him I could not name the berry, yet if he would go with me to New Jersey the next day I thought I could perhaps show it to him. Being unable to go, we parted in New York, he promising to visit us and see the berry as soon as it should be ripe.


THE MANCHESTER STRAWBERRY.

The next day was wet and rainy, yet I found myself, with a large party of fruit growers, in the original plantation of the Manchester Strawberry, a field of some three or four acres, set five years ago, and having had no cultivation of any sort for four years. Yet there were very few weeds and grass growing to choke the plants. The soil appeared little better than the white sand of the ocean beach, and wholly destitute of vegetable matter. Yet here were berries—"millions" of them—bright and glossy, of good size and delicious flavor.

In our party were some of the best Strawberry experts in America, men well acquainted with every variety in cultivation, and all agreed that the Manchester was superior in almost every respect to any other variety.

The general question was that, if it will do such wonders on this unpromising beach sand, what will it do on good soil under good cultivation ?

As few, if any, readers of The American Garden will ever grow Strawberries with such utter neglect or on so poor a soil as where the Manchester originated, I will not fully describe it as grown there, but give its characteristic points as developed on good soil, grown in matted rows under ordinary field culture along with fifty or more other varieties.

The plant is as strong and thrifty as the Sharpless, although it does not make runners as freely as that variety; foliage rich dark green and very heavy; has pistilate blossoms, therefore must be grown near some perfect flowering sort. It is the most prolific variety I have ever seen, in fact, much like the Crescent, only more so, the vines being literally loaded with berries of uniform size, while there are but few very small berries, nor many monstrous ones, the whole product however making the largest average of any variety I know of. The form of the fruit is perfect, similar to the Cumberland Triumph, color rich, bright, glossy scarlet; it has a rich vinous, refreshing flavor, and in quality, I think, ranks among the best. Its firmness, as grown on the sands of New Jersey, was pronounced by all to be fully equal to the Wilson, and Mr. Idell, the commission merchant that has sold the fruit in New York for the past four years, is of the same opinion. As grown with us I can see nothing to indicate that it is and will not be just as firm as in its original home.

It may be a good ways yet before perfection in Strawberries is reached, yet it is my impression that in the Manchester we have come nearer to it than I thought we ever would be. A Strawberry with the vigor of the Sharpless, the productiveness of the Crescent, with fruit of good flavor, perfect in form, and firm enough for shipping, is a prize. I believe we have it in the Manchester, and many fruit growers, after they see it, I think, would agree with my old fellow traveler of June 8th who, after looking over the beds for an hour or two, said: "Well, that beats all. If I was a few years younger I would set twenty acres of them next spring if I had to mortgage my farm to pay for the plants. There is a fortune in that berry for a man that will push a little and get ahead of the crowd."

J. H. Hale.

Thinning and Packing of Fruit.—Marshall P. Wilder says : "The importance of properly thinning out fruit trees when bearing redundant crops is more and more apparent. To produce fruit that commands a good price in market has become an absolute necessity. This is seen especially in that intended for exportation, apples of good size, fair, and properly packed, commanding in the English market fully double the price of those which had not received such care."

PRUNING GRAPE VINES.

THE FULLER SYSTEM.

Editor of American Garden:—Your January issue, containing Mr. Fuller's criticism on my article on pruning and training the Grape in the October number, is just at hand, and it seems proper that I should say a few words in self defence.

Mr. Fuller is a modest man, and I am not surprised that he demurs to having any system of training and pruning the vine imputed to him as his *invention.* I was aware he never pretended to have *invented* the system generally known by his name, but this much he did do, he popularized the horizontal arm and vertical cane system through the medium of his *Grape Culturist* to such an extent that hundreds and thousands of people learned it, and know it only as his system—a perfectly natural result—and when the "Fuller system" is referred to they know what is meant, which they would not know if called by any other name. He says: "I *may* have expressed my preference for certain systems of training vines, etc.,"—(this is rather equivocal, to say the least,)—"but I never claimed to have invented them, but, on the contrary, stated (page 129) that the main features of the system of training which I preferred had been in uninterrupted practice for more than a hundred years."

This is true. He says distinctly it is not a new system. The opening sentence of the paragraph above quoted reads thus:

"The following system of pruning and training I believe to be one that may be applied to all the different varieties in cultivation with the best results."

He then proceeds to describe and illustrate this system, devoting ten pages and employing ten cuts to illustrate the text, the very best and most effective method of teaching, and concludes as follows:

"There are several reasons why I believe the foregoing method is one of the best, if not *the* best system for general vineyard culture.

1. The horizontal is the best position that can be given to the vine to develop its fruiting powers—the main object in all the various methods of pruning and training.

2. The upright bearing canes being equally distributed on the arms, no one portion of the vine has any advantage given it over another, the flow of sap being equal to all parts.

3. The equal distribution of the fruiting canes not only allows a free circulation of air among the leaves, but insures an equal distribution of fruit.

4. While the vine is restricted within certain limits it is not dwarfed, as some might suppose, for a vine with two arms, four feet long, with ten upright canes on each, making twenty canes three feet long, has sixty feet of wood to be grown and pruned off each season. This quantity is certainly abundant to give the most vigorous growers sufficient expansion to insure a healthy action of root. Some cultivators suppose that because a vine will grow long and occupy considerable space, if allowed sufficient time and furnished with plenty of nutriment, that it cannot remain healthy if it be restrained within moderate limits. But this is a great mistake, and the sooner such ideas are abandoned the better it will be for the vine and for the cause.

5. The vines being trained low, the fruit receives a greater amount of heat than if more elevated, because it gets not only the direct rays of the sun, but also the heat reflected from the earth. This last is quite important in a northern climate, where there is little danger of getting too much heat.

6. The mode is so simple that the most inexperienced may understand it, and when the vines are once put into shape, the pruning ever after is so nearly the same there is scarcely any danger of going wrong."

Now, after this minute description, copious illustrations and emphatic endorsement, can it be possible that Mr. Fuller can say he "*may* have *expressed* a preference for certain systems of training vines," and plead a *total ignorance* of what is meant when the "Fuller system" is alluded to?

Are not the people justified in calling it the "Fuller" system under the circumstances? He was its sponsor and god-father, so to speak (in this country, at least), and but for him thousands of people to-day would have been *totally ignorant* of any such system.

Does such designation necessarily imply that he was the author, or inventor, or that he *claimed* to be?

We speak of the Lawton Blackberry, and all know what is meant without implying that Mr. Lawton originated it. When we mention the Wilder Grape or the Downing Strawberry, we do not imply that they were originated by the illustrious gentlemen whose names they bear, and it would be a poor compliment to the intelligence of the people if those honored men should confess ignorance of what was meant, or deny having originated them.

Being unconscious of any injustice to Mr. Fuller by the use of his name to designate a certain system of training the vine, I have, since becoming aware of his objection to such use, asked every grape grower I have met if he knew what was meant by the "Fuller system," and I have yet to find the first one who gave a negative reply. If I find him I shall regard him as a curiosity.

But since Mr. Fuller takes exception to such use of his name he will please "arise and explain" to me and thousands of others how he would have us designate the particular system of training and pruning the vine he so fully described? It takes a long time for the people to unlearn a thing or adopt new habits for old ones, and in this utilitarian age I fear they will be slow in accepting or substituting any other term for the short and expressive one of the "Fuller system," to which they have become so accustomed, the meaning of which they are not too ignorant to comprehend. If it is true that "Error will travel a league while Truth is getting on his boots," we have a formidable pedestrian task before us; but if Mr. Fuller will only set us right we may make haste slowly.

Respectfully yours,

E. Williams.

NEGLECTED GRAPE VINES.

In pruning old, neglected vines, which are found far too often in farm and village gardens, the aim should be to induce new, vigorous growth to take the place of the old and useless wood which has to be cut out gradually. In the majority of cases, the wisest plan would be to plant young vines of newer and improved kinds, to take proper care of them, and, as soon as they come into bearing, to dig up and burn the old ones, and scatter their ashes around the young vines, that what good there is left in them may benefit the young and better generation.

FRUIT NOTES.

At the last meeting of the Illinois Horticultural Society the following subjects were among the most important topics discussed. Many leading fruit-growers participated in the discussions and related their experiences.

Curculio-Proof Plums.—Absolutely curculio-proof Plums were regarded as fiction. Hard-skinned varieties are not much disturbed by the beetles as long as they can find more delicate ones, but when the latter are gone and later in the season the so-called curculio-proof Plums are as liable to attack as any.

Blooming of Fruit Trees in the Fall proves generally injurious to the tree, but the crop of the following year is not materially lessened thereby.

Girdling Trees.—Girdling trees to increase their fruitfulness was by many considered of no value, and in several instances no difference was found in bearing between those girdled and those not so treated.

Canker Worm.—Burning is still considered the most effective remedy. A solution of London purple is also recommended, and has the additional advantage that it is not injurious to the foliage.

Russian Apples.—Some valuable varieties for the northern states have been found among the imported stock, and as a general rule they are free from blight, at least more so than other kinds.

CHANGING STRAWBERRY PLANTS.

An English nursery man makes in his catalogue the following astonishing statement: "Strawberries like Potatoes are always more fruitful when given a change of soil, consequently success largely depends on having runners from a distance." This may be comfortable intelligence to nurserymen who have a large stock of plants to sell, but fruit-growers will be slow to accept this new theory. Some varieties succeed better in sandy soil, and others in clay, and in such cases a changing of plants, that is of varieties, will naturally prove advantageous. It is also well known that some varieties cannot be made to grow well in certain localities, and that such may be induced to do better by procuring plants from a distance, we are not ready to believe, before seeing convincing evidence.

SELECTION OF VARIETIES.

The show-tables of a fruit exhibition are generally not the best place to make a selection of varieties for one's own use. These premium fruits of exhibition varieties, raised by experts, and grown under the most perfect systems of culture and petting, will seldom prove satisfactory under ordinary cultivation. The prize quart of Strawberries may be the tidbit of a four-acre field, and the premium plate of Pears the result of most watchful care and systematic and unprofitable thinning out. To judge intelligently about the relative merits of different varieties, they have to be seen growing and bearing in the fruit-garden or field.

Phylloxera.—The loss in the vineyards of France, caused by the ravages of the Phylloxera, is estimated at six hundred millions of francs per annum, and thousands of grape growers have been ruined by its prevalence. Grafting of the French varieties upon our own phylloxera-proof kinds has so far proved the most effective remedy, and millions of grape cuttings have been sent from here to France for this purpose.

The Flower Garden.

WITHERED FLOWERS.

'Twas on a bitter winter's day,
I saw a strange, pathetic sight;
The streets were gloomy, cold, and gray,
The air with falling snow was white.

A little ragged beggar child
Went running through the cold and storm;
He looked as if he never smiled,
As if he never had been warm.

Sudden, he spied beneath his feet
A faded button-hole bouquet;
Trampled and wet with rain and sleet,
Withered and worthless, there it lay.

He bounded, seized it with delight,
Stood still and shook it free from snow
Into his coat he pinned it tight,—
His eyes lit up with sudden glow.

He sauntered on, all pleased and proud,
His face transformed in every line;
And lingered that the hurrying crowd
Might chance to see that he was fine.

The man who threw the flowers away
Never one-half such pleasure had;
The flowers' best work was done that day
In cheering up that beggar lad.

Ah, me! too often we forget,
Happy in these good homes of ours,
How many in this world are yet
Glad even of the withered flowers!

—*St. Nicholas.*

SEASONABLE HINTS.

Flower Beds may be planned and designed now and staked out at any time when the ground is not frozen. This gardening on paper is a delightful winter occupation and facilitates the actual work astonishingly. The shape of each contemplated bed may be traced, the size and proportions marked down and lists made of the kinds and number of plants required. The cost can then easily be ascertained and the plants procured in season. The cost and amount of labor necessary to keep all the beds and grounds in good order, however, can not as easily be calculated, and generally the estimates fall much below the actual amount. It can therefore not be too strongly recommended to plan for no more than can be well taken care of.

Walks and Roads may be laid out and in open winter dug, and be built. Nothing is so essential to the comfort of a rural home than that the walks, near the house at least, should soon dry after rain and not become muddy and miry in spring when frost leaves the ground. This can only be accomplished by thorough drainage. Stones thrown promiscuously on the surface do not make a desirable road. Where the soil is heavy and impermeable the entire road bed has to be removed to a depth of from one to two feet and replaced with stones set up edgewise; these leveled with smaller broken ones and then covered with gravel. On such roads water cannot stand and frost has little influence, and they are easier kept in order than ordinary gravel walks.

Flower Seeds.—Many kinds may be started in hot-beds or pots towards the latter part of this month, to be transplanted, when larger enough, in other pots, and held in readiness for out-door planting. The season of flowers may be lengthened considerably in this way.

Perennial Plants in the open ground suffer often more in mild winters than in the coldest ones where they have a protection of snow. Snow is the best protector for plants of all kinds, but unfortunately not always at our disposal. Fine light stable manure is probably the next best, and if scattered around plants during winter it protects them against the infurious effects of freezing and thawing.

AMERICAN BULBS.

THE TUBEROSE.

Notwithstanding the "Dutch bulbs" of Holland are of world-wide celebrity, there has of later years sprung up in this country an industry that has already absorbed a portion of the trade from abroad. The climate and soil of Holland, and especially the districts in the immediate vicinity of Haarlem, are justly noted for their immense crops of Hyacinths, Tulips, Crocus, etc., yet the long warm seasons of the Middle and Southern states of America can excel their ancient rival in the production of superior bulbs of Tuberoses, Colocasias, Cannas, Gladiolus, Lilies, Tigridias, and possibly many other species. From a small beginning, dating back say twenty years, when 5,000 bulbs of Tuberoses were considered a large crop, there are at the present time several establishments whose annual crops may justly be estimated at several hundred thousand bulbs each, and the demand is still largely on the increase.

It has been for years a customary belief with foreign seedsmen that the best Tuberose bulbs were grown along the shores of the Mediterranean, but that idea is now dispelled, owing to the firm character of the American article which has by its intrinsic merit gained the highest position in the market.

In cultivation the Tuberose greatly prefers a deep, light soil, but yet is benefited by a liberal dressing of old thoroughly decayed manure. A sandy soil is their delight, provided they are supplied with fertilizing material. Too much moisture causes a spongy, or at least an undesirable growth, and although the bulb under such conditions may make a fine appearance, it is not superior for blooming to the smaller, yet more solid root. Heat is their especial delight, and during a drought, even in light soil, the bulbs are not materially affected, and continue to grow when most other plants under the same conditions will shrivel up.

During the season of 1881, the almost unprecedentedly dry weather, from early in the summer until late in autumn, and extending over the greater portion of the northern states, caused a partial failure of the Tuberose crop; but it is an open question whether or not the smaller bulbs of last year, thoroughly ripened as they unquestionably are, will not produce a greater percentage of bloom than the larger sized and more succulent bulbs of an ordinary wet season. Size is not always a sure criterion of the blooming quality of Tuberoses; and it may well be doubted that some of the immense specimens grown in the long, warm summers of the southern states are any better (if as good) than the smaller yet superior ripened northern bulbs. For the purpose of testing this theory, the writer selected 500 good sound second-class bulbs, such as are generally expected to produce but a small percentage of flower spikes, and which are indeed for the most part commonly used for forming extra sized bulbs for the succeeding season. The result was 450 excellent spikes; thus plainly showing that more depends upon intrinsic quality than mere outward appearance. There appear to be some popular fallacies prevalent among florists which are seldom contradicted, one of these in relation to a Tuberose bulb blooming but once, needs especial contradiction.

It is true that a bulb in blooming almost always weakens its vigor, as is plainly instanced in the Hyacinth, but to assert that the Tuberose will never bloom a second time is simply absurd. I have seen a crop of these bulbs produce very nearly as fine flowers, and almost as many of them, the second season as the first, but old blooming bulbs are not to be recommended on this account. Strong, healthy young offsets in two years, with generous cultivation, will produce the best results, and it is an excellent rule to immediately pinch off all flowering stems the moment they put in an appearance. The nutrition, which otherwise would be absorbed in producing bloom, is thus retained and stored away in the fleshy bulb-scales to do duty in a more extensive way next year. Some dealers invariably reject Tuberose bulbs which show the least sign of decay, even if arrested and perfectly dry, believing that outward signs of this nature are detrimental to their perfect development.

The only infallible test, is to cut the bulb open directly through the center, and if the heart or bud is sound and white it will surely grow. But on the contrary, should the central portion be discolored in the least the bulb is seriously injured, if not absolutely useless. To understand this matter perfectly requires a knowledge of the nature and functions of bulbs.

According to botanists, a bulb is an underground stem, with organs analogous to the latter, having roots emanating from the base, with fleshy scales answering to leaves, and a central bud whence issues the stem for producing the flowers and fruit. Therefore should the bud be in a sound, normal condition; any imperfections in the other organs will not prevent its growth. The introduction of the "Pearl" variety is a step in the right direction; for what is most needed in this plant, is a dwarfer growth and larger flowers. Many florists are very partial to the single-flowering variety, as they consider the blooms more useful for cut-flower work, and send it out under the name of "Orange-blossom." During winter the bulbs must be kept warm and dry; a cool, moist cellar being sure to encourage decay.—JOSIAH HOOPES.

THE CARDINAL FLOWER.

(*Lobelia cardinalis.*)

This beautiful native we find advertised in some seed catalogues, among the novelties of the season. This is a move in the right direction, and this brilliant and gorgeous flower which has been growing wild in our meadows and along our brooks ever since man first set foot on our soil, and no one knows how many millions of years before, is probably a novelty to many who have lived a life-time within a short walk of its native habitat. We search the wide world over for "novelties," while here they are growing around us in splendor and brilliancy. Nothing more dazzlingly beautiful can be imagined than a bed of Cardinal Flowers in autumn, when in full bloom, grouped in a shady spot on a smooth, velvety lawn with a group of Cannas or Rhododendron as a back-ground.

NOVELTIES.

It is with novelties in flowers and fruits very much as with fashions in clothing. The old patterns may be more comfortable and the material more serviceable, yet as they are not of the latest fashion no one who pretends "to be up with the times" will think of wearing them. For, although we are well aware that but few novelties are more desirable than some older kinds, we are anxious to obtain them, and perhaps it is well that we should do so, for how else could we find out their worth if we did not try them. The pearl-diver has to open thousands of shells before he is rewarded with one containing a pearl.

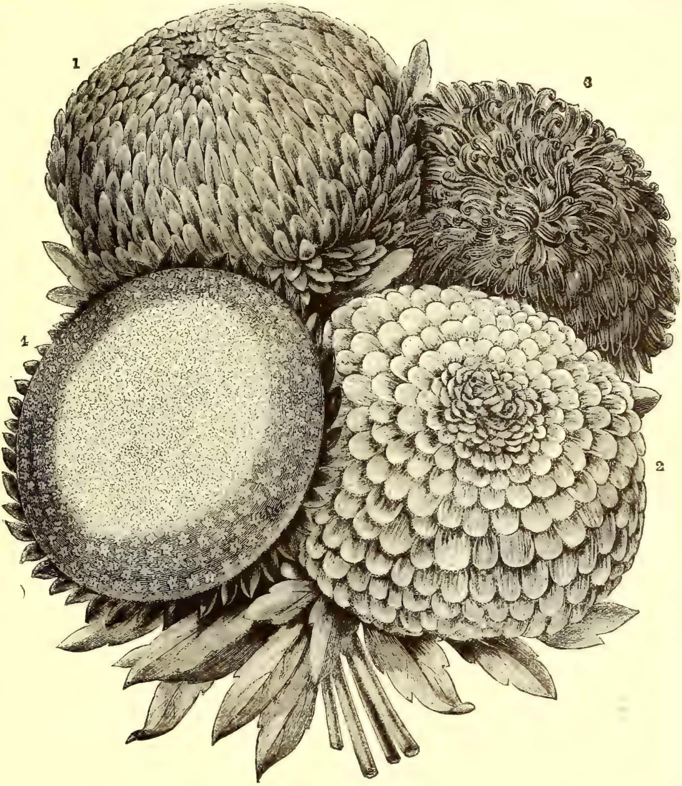
CHINA ASTERS.

Aster sinensis or *Callistephus hortensis*, under which name it is now known to botanists, stands in the front rank of our choicest annuals. When well grown no other flower can surpass, if equal, its beauty and perfection of form and richness and variety of colors, varying through all imaginable shades from pure white to deep carmine, violet and blue. The original unpretending single flower has become transformed under cultivation, into numerous types of form, the most distinctly characterized of which are divided into four principal classes:

1. The *Pæony-flowered*, having very large, full flowers with long, incurved petals.
2. *Victorias*, with beautifully imbricated and very double flowers.
3. The *tasseled* or *Chrysanthemum-flowered*.
4. The *quilled* or *globe-flowered*.

The accompanying illustration reproduced from the catalogue of Daniels Bros. England, well represents the leading features of each class.

Although Asters can be as easily grown as any other garden flower, care and attention are necessary to obtain the best results; and it is only through the persevering efforts and labors of some earnest cultivators who have made the improvement of this lovely flower a specialty, that the new improved varieties have been produced. Mr. James Betteridge, who is justly recognized as one of the most successful Aster growers of the present time, gives in the *Field* a comprehensive article, from which we abstract a few of its directions.



TYPES OF ASTERS

1. Improved Pæony-Flowered. 2. Victoria. 3. Chrysthemum-Flowered. 4. Prize Quilled.

SOWING THE SEED.

"For several years after I commenced the culture of Asters," says Mr. Betteridge, "I always sowed the seed in bottom-heat, but during the last decade the plan adopted has been to sow in a cold frame under glass, some time between March 26 and April 26, in drills six inches apart, and not too thick in the drills. A few days suffice to bring them above the soil, when a liberal supply of air must be given, or the plants will be weak. When large enough they should be pricked out into another cold frame, slightly shading, where they will soon be established; and after they have attained strength enough to handle well, plant them out into the beds or quarters where they are to bloom, in well manured soil, being careful not to break the tender fibers of the roots. Let the rows be one foot apart, and plant the strongest plants twelve inches from each other; this should be done in showery weather, when the plants soon get established. If the weather be hot and drying, a little water will be necessary till they are rooted, afterwards keep them clear of weeds by hoeing among the plants. About the first week in August top dress with rotten manure from an old hot-bed, giving a good soaking all over if the weather continues dry. After this, if the blooms are required for exhibition, the plants must be tied out to small stakes. As soon as it can be determined which buds will produce the best blooms, thin out or disbud, leaving about five or six blooms on each plant. Exhibition blooms should be of large size, full, with high centers, deep, distinct color, and solid petals. To secure these qualifications shading of some kind is necessary. For this purpose we have tried many kinds; one of these, and the most useful during the past stormy season, has been a "tin shade," about twelve inches in diameter, with a spring socket to slide up a stake, one which we formerly used for shading Dahlias. Wire frames covered with linen or other light material will do as well; all that is required is perfect security against rain and hail-storms.

SOIL.

Asters like a deep, rich soil, and it is only under such conditions that really fine flowers can be obtained, and the plants induced to hold out should dry weather set in. Planted in the ordinary way they are mere weeds compared with such as are well fed and can get their roots down deep in search of moisture; and when they can do this the hotter the weather the better it suits them. Confined to the top shallow crust of earth they are soon dried up, and the blooms starved; and this is why we so frequently see the poor puny plants that are found in borders, where, instead of being able to grow and develop themselves, all they can do is to struggle on for existence. The best way to manage them is to dig and cast off the top spit to one side, handy to be returned to its place again; and then trench and break up the soil below, working in with it at the same time plenty of short manure, thoroughly decomposed, which will have the effect of attracting the roots and affording them ample assistance just as they most require it, when expanding and perfecting their bloom. Trenching, as usually done, brings crude earth to the surface, and buries that which has been exposed to the ameliorating influences of the atmosphere—a fact that should be borne in mind, as it takes years to get it in the condition in which plants will lay hold of it and start away freely. In very light soils a few barrow loads of clay, chopped up finely and well mixed in, has a capital and lasting effect, and will do more in producing fine Asters than any other help can afford. The thing to aim at is to keep the bottom cool and moist, and, this done, all else is clear sailing, as then if the weather be favorable, the plants will take care of themselves. When grown in groups of three in a border, similar preparations must be made, or neighboring plants already in possession are sure to rob them and cut short their beauty long before the autumn sets in, and when they should yet be in their full glory.

POT CULTURE.

Many have written about the kinds best suited for pots; but our practice has been to sow in the open air in May, keeping the varieties separate, and then lift about the middle of September (when the buds have partially expanded), and putting three plants into an eight-inch pot, pressing the soil firmly, shading for a few days, and then place them in a cold greenhouse, where they will bloom late or through the autumn. Such as these have a splendid effect in a conservatory among the the small kinds of foliage plants, the only other plants, equal in point of color being the Chrysanthemums.

Lawn and Landscape.

NOOKERIES.

How shall we treat our garden or lawn nookeries? to coin a phrase which means, I take it, an aggregation or congeries of nooks and corners combined into a single isolated picture. On general principles nooks of the garden attain a value not only because in them, as Lord Bacon quaintly puts it, "when the wind blows sharp, you may walk as in a gallery," but because these nooks afford the attraction of a surprise, that may be in the truest sense, when properly taken advantage of, a pleasurable surprise. In a word there must be a succession of nooks, surprises in numbers, all within the limits of one small spot, to make your true nookery, for a bare corner is in no sense a nookery. Memory must surely recall to all of us such spots down in the orchard or behind the barn, and especially in some remote corner of the old-fashioned garden and in the edge of the woods at the back of the house. The old Apple-tree with the Grape-vine trailing over it, down by the drinking-hole for cattle in the corner of the orchard, was a delightful nookery in its way, with its rich turf and charming wild flowers, or weeds, as some would call them. Abounding, too, in nookeries of the pleasantest sort was the old flower garden, with its Box-lined borders and Lark-spur and Hollyhocks where, for instance, in a far corner, we come suddenly on an old arbor festooned with Grape-vine, Honeysuckle and Trumpet Creeper. I think, though, according to my remembrance, the best nookery was to be found down on the edge of the grove, with its pool of water on one side and its bays of shrubby growth and aisles of tree trunks on the other. The Rushes and Lilies of those remote, still waters, and the wild flowers and climbing vines, Virginia Creepers and Bitter Sweets in the recesses of the woods, even now linger with me as types of what garden nookeries should be.

After recalling the constituent parts of such scenes, it ought not to be hard to adorn, and, if necessary, create these pleasant nookeries in our gardens. It is not a question of extensive or even exquisite culture, but only a few well-directed efforts from year to year and the place takes care of itself. Every one surely can find a secluded nook in the garden or lawn, and there are many things we can do of the easiest nature that will tend greatly to perfect these delightful surprises. Wild flowers can be fostered and even planted in such a way as to preclude all idea whatever of the working of the hand. Hardy shrubs, too, may be used in the most effective manner for this purpose, by planting them singly or in colonies in a thoroughly wild-wood manner. But, I believe, nothing will create such pleasant, artistic surprises in these nooks, and illustrate the proper way to treat them better than the intelligent employment of climbers and creepers. With them alone we can do wonders. Take that old stump before you and wreathe it with festoons of the long, crimson flowers of the Trumpet Creeper—Tecoma radicans. Nothing in its way can be finer except the employment of Tecoma grandiflora. Don't confuse, however, these trumpet flowers with those of the Scarlet Trumpet vine or Honeysuckle—Lonicera sempervirens—with the bright, glossy, green leaves that often last nearly all winter. Every one thinks of Honeysuckle flowers as sweet-scented and yellow, white or red; but how many stop to examine the rich, glossy shades of Honeysuckle leaves, so admirably adapted for carpeting bare spots or draping heaps of stone and stumps and tree trunks? There are scores of varieties of Honeysuckles which are, every one of them, worthy of employment.

In some of these sheltered nooks we might even use the unequaled English Ivy, particularly if we use it as a carpet; but we certainly can have the so-called Japan Ivy, Ampelopsis Veitchii, or tricuspidata, in this country the most perfect of hardy creepers for clinging by rootlets to stone or wooden surfaces. Few plant effects can surpass in summer the glossy color and artistic forms of the leaves and tendrils of the Japan Ivy, or the crimson and gold of its autumn tints. But we must not forget the other varieties of Ampelopsis in contemplating the charms of the Japan Ivy, for few things are more effective in our tangled wild-wood corners than great masses of the common Virginia Creepers—A. bipinnata. How its piled-up leaves festoon the tree trunks with overlying masses of shining green in summer and of scarlet and blood-red in autumn every one familiar with fall effects must remember. Of an entirely different, but none the less very effective, nature is the Virginia Silk—Periploca Græca—with long, pointed, shining leaves, small flowers and brownish-red stems, reaching out with almost unrivaled speed away up the stem of the tree, illustrating in a temperate zone and harmless manner something of the tree-murdering propensities of certain vines of the tropics. For the adornment of the upper part of the trees and rock masses we must not forget the rich clusters of foliage and charming garlands of flowers of the purple and white Wistarias. Wistarias, allowed to reach out, flower and leaf most abundantly in their upper parts, and are, therefore, specially adapted for garlanding a tree or roof far up in the air without reference to covering its lower part. Then there is the neat-leaved Akebia; the bold and picturesque, large, light-colored-leaved Dutchman's Pipe; the autumn-crimsoned purple-berried Bitter Sweet, all lovely climbers for our purpose. But of all charming climbers, I verily believe the Clematis must bear the palm. The variety of color and form of its flowers seems endless, extending from the noble, dark-purple Clematis Jackmanii to the delicate, small, white and yellow flowers of C. flammula and C. apiifolia. And they are equally fine in the nookery whether carpeting bare spaces of ground or garlanding and draping rocks and trees.

Before leaving a subject thus closely allied to the very heart of nature, I would note again, with increased emphasis, that one of the peculiarities of the proper treatment of these pleasant corners, whether in garden or woodland, is that it may be said, almost, that the more you plant and the less you cultivate and cut with the sickle, scythe and pruning knife, the more surely you attain the end desired. Conventional methods are all out of place in the true garden or lawn nookery. Grasses, mosses, tree trunks, fantastic, "lovely climbers, and wild flowers, weeds even, and manie a plant that the fastidious woulde cast forthe," tall, purple Thistles and Asters and great Docks and Sorrels, all make up a picture in such nooks, that, irradiated, perchance, by the level beams of the setting sun, surpasses "beyond compare" any number of cart-loads of scentless bedding plants, mechanically arranged and ribbon-bordered.

S. PARSONS, JR., *in Rural New Yorker.*

NATIVE FLOWERING SHRUBS.

There is perhaps no more simple and effective way of beautifying a lawn than by the tasteful planting of flowering shrubs; and with proper application of the resources which nature has placed at every one's disposal there is no reason why more rural homes should not be surrounded by handsome native shrubs, and present during spring and summer a cheerful and pleasant appearance, instead of seeming the bleakest objects in a barren landscape.

Our woods and hillsides offer a large and varied field for selection, where with proper care in the choice of good, thrifty young plants, the material for a very pretty shrubbery can be obtained, which, after being once established, requires but little care to become a permanent ornament.

The four native species of Azalea are alike showy, beautiful shrubs, and their tendency to sport freely heightens to a considerable extent our interest in them.

Closely allied to the Azalea is the Rhododendron, of which the species Catawbiense, bearing beautiful lilac-purple flowers, is readily transplanted, but the magnificent R. Maximum, which grows in wet places throughout the mountains of Pennsylvania and southwards, is not as easily coaxed from its natural habitat.

To assure success in the transplanting of these shrubs, young plants only should be taken, and carefully set out. Those that are natives of swamps and wet places should be planted in somewhat shaded situations, while natives of hillsides will thrive in any location where cultivated shrubs will grow.

Our Mountain Laurel, Kalmia latifolia, is well worthy of cultivation, but needs great care in transplanting to insure success. The plant should be removed with as much earth as can readily be carried, and planted in as much of its native soil as can conveniently be obtained from the woods. This shrub seldom does well in common garden soil, but the extra labor of providing for its necessary elements is amply repaid by the exceeding beauty and profusion of its large clusters of handsome, showy flowers, varying from a deep rose color to pinkish white.

Andromeda Mariana, the Stagger Bush, is quite abundant throughout the Eastern States, blooms in May or June, producing handsome, drooping clusters of pure white flowers, and will readily grow in any good garden soil, as will also the handsome species of the Southern States, A. floribunda.

One of our earliest bloomers, and an exceedingly pretty shrub or small tree, found nearly everywhere, is Amelanchier Canadensis, known by a variety of names, as June-berry, Shad-bush and Service-berry; the variety oblongifolia, the showiest of our eastern kinds, is readily transplanted and much improved by the operation.

The Flowering Raspberry, Rubus odoratus, if well pruned and kept in a bushy, compact form, makes a fine display. Among the Dogwoods, the Spiraeas and the Viburnums, are several beautiful species.

There are many other equally handsome native shrubs which may easily be taken up in the fall or early spring, and improved by cultivation. Indeed, almost every nook and corner of our land abounds with handsome flowering shrubs, which with even less care than we bestow upon foreign varieties of far less beauty, would be more satisfactory and aid much in promoting the cheerful appearance of our homesteads.

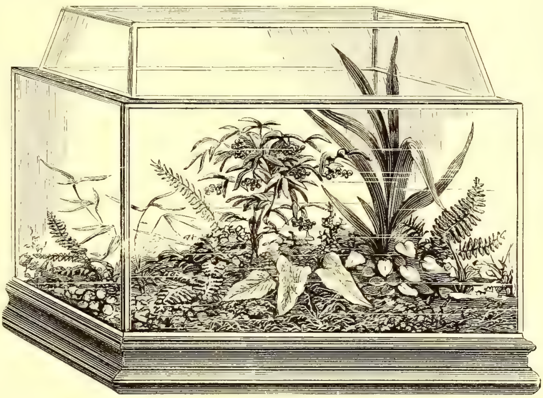
C. R. HEXAMER.

The Window Garden

AND GREENHOUSE.

FERNS FOR THE HOUSE.

Kinds of Ferns.—Deciduous Ferns—that is, those like our common wild Maiden Hair, that grow in the summer time, but lose all their fronds on the approach of winter—are not of much account as window plants, because it is in the winter, and not in the summer time, we want our windows filled with plants. But if these deciduous Ferns are grown in pots, ripened off early in the fall, rested for a month or two by keeping them inactive and cool, when brought into warm quarters in winter or spring they grow afresh quite vigorously. There is a class of Ferns, like Polypodium falcatum and Californicum, that dies down in summer and grows in winter, and these make good plants for the winter. But best of all are the evergreen Ferns, and especially so those like Aspidium falcatum, whose leaves are thick, leathery and shining. Many Ferns, as Dicksonia antartica, that are well suited for window culture in a young state, when old become too large to be accommodated. But as Ferns are slow growers, it is how to get them to grow bigger, and not how to prevent them, that concerns us most. The following are good window Ferns: young plants of such tree Ferns as Dicksonia, Cyathea and Cibotium, Blechnum Braziliense, the commoner kinds of gold and silver Ferns (*Gymnogramma*); Pteris argyrea, cretica albo-lineata, serrulata and its varieties, and tremula; Adiantum hispidulum, cuneatum, venustum (a winter grower), decorum; Pellæa hastata; Woodwardia radicans and Orientalis; Scolopendrium vulgare, and any of its varieties; Onychium Japonicum; Doodia media; Lygodium Japonicum (climbing); Nephrodium molle; Hypolepis distans and tenuifolia (good for baskets); Lastrea patens; Nephrolepis exaltata and tuberosa, Nephrodium molle and venustum, and Athyrium Goringianum pictum. I am compelled, though reluctantly, to use botanical instead of English names for these Ferns, because there are no accepted English names for the most of them; therefore, were I to manufacture names for them it would only lead to confusion. As they are well-known Ferns, you will find them described in your nurserymen's and florists' catalogues.



FERN CASE.

Ferns for Fern-cases.—Fern-cases are usually boxes or pans without any means of letting off surplus water, therefore much care is necessary in attending them. The under soil should be rough and porous, that on the surface fine. When the Ferns are planted, and a little moss is inserted all over the surface to make a green carpet, give water enough to moisten the soil all through, but no more; then never again give any more water without satisfying yourself that the soil is dry enough to need it. But if you have a water-pot with a very fine rose, a syringe, or one of those rubber sprinklers the florists have to dew flowers with, you moisten your Ferns overhead, sparingly though, every day with benefit to them. Ventilate your cases a little every day. Use the commonest kinds of Ferns, as Adiantum cuneatum, hispidulum, assimile, tenerum, venustum; Pteris serrulata, longifolia, tremula, argyrea, flabellata; Polypodium falcatum, Doodia media, Onychium Japonicum; almost any evergreen; Asplenium and Aspidium, Pellæa hastata, Woodwardia radicans; in fact, most any little soft evergreen Fern that is not powdery, hairy or crisp. Some of these I have mentioned grow quite large, but common folks have common sense enough not to set big plants in little cases; use small plants—there is not much fear of their growing too big in one season. We are often told to plant "filmy" Ferns in our Fern-cases. These filmy Ferns are a very peculiar class, having fronds of a pellucid texture; they are found in very moist places, about dripping rocks, and the like, and in tropical countries climbing up or growing on the stems of trees in dense forests. The commonest one in culture is the Killarney Fern, from Ireland. They need an equable, close, moist temperature, lots of water at the root, and to be dewed overhead once or twice a day. We have a fine lot of these Ferns in vigorous health, still I cannot recommend them to amateurs,—they are very expensive and need constant care.

Ferns for Baskets.—If your basket is an ordinary rustic wooden or earthenware one, with a bowl within it to hold the soil in, and you want Ferns whose fronds will grow out to droop over its sides, then you had better have Adiantum cuneatum, Pteris serrulata or its crested varieties, Asplenium reclinatum and longissimum, any Nephrolepises, and the Chinese blue moss (Selaginella uncinata). There are baskets made like square log cabins, with openings between the logs. These are easily filled, for you can pack all manner of little Ferns between the "logs," and plant the bigger ones in the top. The common little Spleenwort (Asplenium ebeneum), found so abundantly in our open, rocky woods, is first-rate for lining the sides of cabin-baskets. There are also wire-baskets; an ox-muzzle is good enough. If the meshes are too big, you can run a piece of fine wire through them. You may line these baskets with moss from the woods, keeping the green side out; fill within with soil and plant your Ferns; you can also stick little Ferns all around the sides and bottom. The small Spleenwort just mentioned is good for this, too. But one of the prettiest of linings for such a basket is a sod of common Polypody Ferns, the Fern-side outside. Go into a rocky wood anywhere, and you can peel this Polypody off the rocks, in sods as big as your hat or a blanket, if you wish. The Polypody is evergreen, at any rate, and, when introduced to warm quarters in winter, picks up and grows away as if it were summer-time in the woods. Staghorn Ferns may be studded over a suspended basket,—Polypodium aureum, a handsome species from Florida and common in greenhouses, delights to get into a basket. And if you want something to run on a piece of block or rough bark, there is nothing better than the little Polypodium vaccinifolium and P. Billardieri; but mind you, you must start them in soil first, and when they begin to grow out, let them take to the blocks.

Summer Treatment of Ferns.—Few people care to soil their houses by keeping plants in their windows in the summer, and it is better for the plants that they should be out of the house. A cold frame in some sheltered, shady part of the garden is a good place for them; the pots should be plunged in coal-ashes, a sash shaded with whitewash, oil or other material placed over them and kept tilted up, or, in favorable weather, removed. Or, failing a frame, the pots may be plunged out-of-doors on the shady side of the house, or anywhere else away from strong sunshine and drip, and where they can have sufficient water.

Wm. Falconer.

WINDOW GARDENING IN FEBRUARY.

As the days lengthen vegetation becomes more active and flowers more numerous. All bulbous plants such as Hyacinths, Tulips and Narcissus should be brought as near to the light as possible, thorough soakings of water given when required, and those that need support, should be neatly staked. Geraniums, Fuchsias, Petunias, and early flowering plants, should have healthy root action, and those requiring re-potting should be carefully turned out of their present pots and placed in pots two sizes larger.

Cuttings of most plants will root easily in sand or very fine charcoal if placed in a warm position and kept thoroughly moist.

Some seeds of plants that are desired, for early summer bedding, such as Cineraria maritima, Centaureas of sorts, Lobelias, and the Golden Feather Pyrethrum do always best when sown early. Use well drained pots and sandy soil, covering slightly and pressing down gently before watering, set in a shady place until the seedlings appear, after which bring near to the light and transplant as soon as it is possible to handle them.

February is Catalogue month, and it is well to select what is required as early as possible, while the stock of most things is complete, and more time can be given to the execution of orders. A great deal of annoyance is caused by such delay. Even if the plants are not wanted immediately, disappointment may often be prevented by ordering early. Florists or dealers accept orders at any time for plants to be delivered at a later day or season.

John Thorpe.

Foreign Gardening.

HOW ROOT-CROPS SERVED US IN THE TROPICS.

One cold November day when the cold northerly wind told us of approaching winter, for the last Chrysanthemums had faded and only a few dried leaves on the trees reminded us of the summer that had been, we bade adieu to so-called temperate climate, and sailed away for a winter in the tropics. A few weeks brought us to a new land, strange in people, in language, in manners, and, above all, in floral and vegetable life.

Every day brought us a new and more enjoyable experience; each walk in the woods or sail upon the river was a revelation, and though in time we became accustomed to what at first was novelty, yet the charm of the glories of floral life was in no whit abated.

One of our dreams had been that a residence in the tropics meant fresh vegetables every day in the year, and as soon as we were established in our little house we laid our plans to realize our dream. We had all our seeds with us, Corn, Beans, Peas, Radishes, Melons, Squashes, Carrots, Beets, Turnips, Salsify, Parsnips, and many others, a goodly assortment.

Soon our garden was prepared, and as we were in that favored region where the dry season, so called, is not wholly dry, rain falling often in plentiful showers, planting can be done at any season with a hope of fair results. So at once we planted our seeds.

The ground was warm and moist, and all day we worked well under a tropical sun, which, however, is not nearly as hot as the summer sun on "hot days" in the United States. The next morning, looking at our work, we saw some long lines of green, and lo, our Radishes and Turnips were "up,"

The next day the Cabbages put in an appearance, followed soon by all the others, the Parsnips, Corn and Salsify bringing up the rear.

Our hopes were excited, and when for a Christmas dinner we had, from an Indian's garden, Green Corn, Water and Musk Melons, we already regarded our garden as a success.

In about two weeks we had Radishes for breakfast, but they were small, and when another week went by and they grew no larger, we began to blame the soil—most unjustly, for it could not have been better. A few days passed and our line of Radishes was in full bloom. Soon Beets, Carrots, Lettuce and all the root-crops, although they showed but few leaves, began to spindle and to show flower—greatly to our disgust, for we had not intended to plant a flower garden of vegetables. Cabbages made no heads. Some Endives followed the example of the Lettuce and bloomed at once, and our garden was almost a failure.

Why was it? Simply because the plants were wiser than we were.

Our root-crops are mostly biennial plants. In most climates the season is too short for them to grow and perfect seed in a single year. So the first year they store up nutriment in the root which the second summer is supplied to the flower and seed.

Our seeds, although of northern growth, knew no autumn frost would come to nip the flowers or blast the seed before maturity, and without delay followed the law of nature and reproduced the species.

How did they know it? Who can tell? But we shrewdly suspect there is an intelligence among plants, and that as soon as our young strangers formed acquaintances with the natives around them that they were enlightened as to the manners and customs of the country.

This view is strengthened by the fact that we did get some Radishes. They came up at once and immediately went to work to make roots as all their respectable ancestors had done, and before they became acquainted with the natives they had accomplished something.

We give this only as a hint, and commend the subject to wiser heads. But our garden was not wholly a failure. Such Squashes as we had; such Lima Beans; Melons in perfection, and, by several plantings, Corn almost every day! E. S. RAND, JR.

Foreign Scenery.

THE GIANT BAMBOO IN CEYLON.

There is no group of plants, not even that of the Palms, which is more striking to the botanist who first sees tropical vegetation than the Bamboos; the singularity of their habit, the remarkable rapidity of their growth, the persistence of many species for long periods of time without flowering, and the extreme beauty of form presented by the larger kinds, all contribute to interest the mind and strike the imagination. The effect is enhanced by the knowledge that these towering and umbrageous masses of foliage, rivaling or overtopping the slow-growing and solid trees of the forest around, are in all respects as truly grasses as the humble Poas and Fescues of our downs.

Perhaps the largest known Bamboo is that growing in the Botanic Gardens of Ceylon. The species is Dendrocalamus giganteus which, although not a native here, but of Malacca and the adjacent islands, thrives with great vigor in Ceylon. It seems to have been introduced into the Calcutta Botanical Gardens in 1831, where the original plant still stands.

It was soon largely propagated from, and the one mentioned above was one of the earliest propagated. We have here essentially a perennial tufted grass on a large scale; the hard, solid subterranean rhizome is excessively branched, and each branch terminates in an ærial stem or culm. In this species these are crowded together, and are added to every year, the oldest ones being principally in the center, but the rhizome branches are so interlaced that there is little regularity in this matter.

The clump described must contain several hundred culms of various ages, and the mass measures 98 feet in circumference about a yard from the ground. Each culm is cylindrical, and grows as vertically straight upwards as its older companions will allow; the squeezing and jostling which occurs is wonderful, and the enormous compressing will in cases force a culm out of shape slightly. As with other Bamboos they take their full diameter almost immediately, and while yet soft, the silicic hardening not being completed till they have reached nearly the full height. The outer ones toward the top get somewhat pushed over by the immense weight of foliage of those within, and are sometimes broken off in consequence. The usual dimensions of the culms are from 26 to 29 inches in circumference, the largest I have measured attaining 33 inches, or nearly a foot in diameter. They are not thickened at the joints, perfectly smooth, of a pale, dull green color as a basis, but this is overlaid with a sort of "bloom," of whitish blue, and the effect of this is to give a pale greyish tint to the stem. Their actual length is over 100 feet; each joint is 15 to 18 inches in length, and the thickness of the wall about one inch; the lowest ones are shorter, with a thicker wall. When young each node gives off a large, thick, leathery, yellow sheath, topped with a rudimentary leaf-blade, but they are quickly detached, and fall off or often slide down the stem, slipping over one another, so as to form quite a mass at the base of the culm. These sheaths are beautifully polished, but are set outside with minute brown hairs, separable by the slightest touch and somewhat irritating to the skin. A dense narrow collar of short, stiff, crowded, very hard, blunt rootlets comes off just above each partition in the lower part of the culm; these increase as we pass down in length and number till at the very base they pass into the innumerable rootlets originating from the rhizomes themselves, which in incredible numbers permeate the soil in every direction, and effectually prevent the growth of any other large plants in the immediate neighborhood.

This, and the litter caused by the quantity of fallen leaves, are the principal objections to these magnificent objects in a botanical garden, and by choosing suitable sites for planting them these are rendered of no consequence. During the very high winds that are experienced in Ceylon at the changes of the monsoons and at other times, a few stems are occasionally broken off, and the grinding, creaking and clattering noises which go on overhead among the straining stems in windy weather are apt to alarm any one standing underneath. —H. TRIMEN *in the Gardeners' Chronicle.*

PALESTINE OF TO-DAY.

Nothing can well exceed the desolateness of much of the country. Treeless it is for twenty or thirty miles together. Forests which did exist thirty years ago—for instance, on Mount Carmel and Mount Tabor—fast disappearing; rich plains of the finest garden soil asking to be cultivated, at best but scratched up a few inches deep in patches, with no hedges or boundaries; mountain terraces, naturally or artificially formed, ready to be planted with vines as the German colony is doing at the foot of Mount Carmel; the villages nothing but mud huts, dust, dirt and squalor; the inhabitants with scarce clothes enough for decency, their houses ovens: large tracts without a horse or cow, sheep or dog; no pretence at roads, except from Jaffa to Jerusalem, and this like a cart road over a plowed field.

Everything is taxed; every fruit tree, so none now are planted; every cow or horse, etc.; every vegetable sold out of a private garden. Every eighth egg is not taxed but taken by the government. In some places the taxes of the district are sold to the highest bidder. Nothing like a small farm-house is to be found far or near. If there were, the owner is liable to have soldiers or revenue officers quartered upon him, to be boarded and lodged at his expense. The towns are filthy in the extreme, none more so than Jerusalem itself.

This is a picture, I believe, in no way overdrawn of that land which was once "flowing with milk and honey." What might it not become again with fair usage and good government? But there is no hope for Palestine while it remains in the hands of its present rulers.—*Cor. London Times.*

American Scenery.

FLOWERS AND FRUITS OF SOUTHERN CALIFORNIA.

The habitat of our favorite flowers is always a source of interest to the flower-lover, as well as to the botanist,—but a climate, which will by adoption give home and nurture to the more delicate forms of plant-life, and give results nearly, if not quite, equal to the finest conservatory conditions, is one deserving the attention of amateurs. Below the 35th parallel, these results in multitudes of instances are daily witnessed. This is true of the valleys at the foot of the Santa Ynez mountains, and the valleys sheltered by the trend of the coast for twenty or thirty miles below from cold north winds and the hot winds of the desert beyond the mountains; especially in the belt of country known as the Santa Barbara valley, a strip of land lying on the sea-coast, protected by the outlying islands from ocean winds and storms, rendering the harbor a naturally fine one, where steamers land at all seasons. Then, with the protection on the north and west before noted, a climatic condition may be found embracing the needs of temperate, semi-tropical and many tropical plants. The Stephanotis will climb amicably beside the fragrant Honeysuckle. Tecoma Jasminoides will intermingle its lovely leaves and flowers, shielding in winter the leafless Wistaria and rejoicing in the spring over its clusters of royal bloom. Rhus Cotinus will produce its wreaths of delicate fringe in the shadow of the Magnolia and Pomegranate. Fuchsias will lift their tall heads from circles of Gladiolus and Tuberoses, none feeling an alien presence or a stinted growth. But over all these will reign a crowned queen—the Tea Rose, and royally she fills the throne. No garden is complete without a hundred varieties of Roses ; and with intelligent culture nothing finer in results can be imagined, and all the year around. April and May are, perhaps, the most royal months of bloom, but no season is without Roses, and a morning hour is required for taking off the old Roses, making room for the on coming bud and bloom. A circle of these around a Dicksonia antartica in carefully combined colors, with a border of Diosma alba, is a thing of beauty. You cannot cure the once possessor of such a garden; the gravitation toward it is as certain as the laws of any other gravitation. And the Eastern florist, after a winter among such gardens, will pack many a sigh and regret away in the recesses of trunks and portmanteaus, and with infinite disgust will fight Jack Frost another winter, until discretion becomes the better part of valor, and sooner or later the dream of a sunny home and a semi-tropical garden becomes a reality, A commingling of fruits from all zones becomes also a possibility. Citrus fruits grow side by side with the Apple and Pear, Figs and Bananas with Plums and Peaches. Perhaps nothing financially is of more importance to this valley than the following list of fruits: Apricot, Prune, English Walnut, Raisin Grape, Bartlett Pears, Olives, Egg Plums and Nectarines. The Peach does well ordinarily, having off-years, and some varieties a curled leaf. These fruits are mostly purchased by the cannery in large quantities, as also immense quantities of Tomatoes. I have seen Tomato vines seven years of age, but young plants produce better. Eternal vigilance is the price of orchards here, as to insects, as elsewhere. But with it the finest results are realized. Olive culture is becoming prominent, and in another letter will be described. Lima Beans have brought, with their present high prices, a bonanza to farmers in this valley, in many cases realizing from $75 to $125 per acre this season; the land is of course very rich and of many descriptions. Fruits of the leading varieties are proved, from the cash-books of producers, to vary from $200 to $500 per acre, and some instances of Apricots run higher, at six and seven years of age. Most fruits, deciduous ones, bear at three years from planting in considerable quantities.

As a home, with its thoroughly equable climate, neither hot nor cold, nothing can be more desirable than this portion of Southern California. Mrs. N. W. Winter.

Horticultural Societies.

THE WESTERN NEW YORK HORTICULTURAL SOCIETY.

The annual meeting of this excellent society was held in Rochester on the 25th, 26th and 27th of January.

If there is among the many associations formed for similar purposes, one that can be taken as a model, it is undoubtedly the Western New York Horticultural Society. With its headquarters here at Rochester, one of the most beautiful and prosperous American cities, here at the center of the great nursery interest, at the very Mecca of nurserymen and fruit-growers, animated and presided over by Mr. P. Barry, a gentleman who, by his thorough knowledge of everything pertaining to the objects for which the society was organized, as well as his ready tact and amiable manners is singularly well fitted for a presiding officer, and assisted and supported by Mr. P. C. Reynolds, the efficient and untiring secretary, are elements combined which cannot be found in any other section of our country. Where else should we search for such an array of horticultural stars of first magnitude than here, where within a comparatively small radius, are nestled among fruit trees and flowers the homes of the Ellwangers, the Barrys, the Hookers, J. J. Thomas, Woodward, Swan, Moody, Hoag, Vick, Harris, Hubbard, Maxwell, Willard, Bronson, Beadle, Babcock, Powell, Little, Frost, Chase, Smith, and many others of hardly less renown.

The earnestness and business like spirit which pervades the transactions of these meetings is most striking and becomes at once apparent to the attendant. These men are all busy workers and cannot afford to spend their time in useless talk. They go to work at once, and the interest in the discussions does not diminish in the least from the beginning to the close. The amount of valuable information, positive facts and actual experiences of men whose sound judgment can be relied upon, which may be gathered here during the three days' session is really surprising, and a month of reading books could not impart the practical knowledge which may be obtained by attending these meetings.

At present we have space only for a brief mention of some of the papers read, but shall, in future numbers, speak of some of them more in detail.

President Barry in an able and carefully prepared address surveyed the present and prospective horticultural situation of the country. He regards it as a favorable and significant sign of the times, that a large number of the wealthiest and most influential citizens of New York and other large cities are becoming members of horticultural societies, and that their example and co-operation cannot fail to give horticulture a great impetus. He reviewed the causes and effects of the last severe winter and the severe drouth of the summer following. He stated the fact and quoted several instances as proof that as a rule the damages were much greater on low alluvial bottom than on high rolling ground. To prepare for such severe winters which return more or less at regular periods, the cultivator must endeavor to secure, by situation, soil and treatment, the greatest possible degree of hardiness which each class of fruits is capable of attaining. He spoke of the mistakes in extreme treatment, over-feeding and under-feeding, and of the great evil of over-cropping, which error with Grapes especially, is unfortunately committed not by novices only. Ripening of roots and wood is all essential to hardiness. The means to be employed in securing hardiness may be concisely summed as follows:

1. Dry soil, absolutely free from stagnant water.
2. Sufficient fertility *only* to produce a moderate and healthy growth.
3. Such treatment of the soil as tends to produce growth early in the season and arrest it in early autumn. This precaution becomes of special importance with tender varieties.
4. Avoiding over-cropping of fruit trees and Grape vines.

Deep and thorough cultivation are regarded as the most effective means to combat drought, they enable the roots to draw the cool moisture from below. The use of the subsoil plow is highly to be recommended.

A brief mention of the State Experiment Station which has lately been located near Geneva, and placed under the directorship of Dr. E. L. Sturtevant, so well fitted for the position, closed this excellent address.

The great usefulness of this Society is evidently owing to a masterly system of division of labor. There is no room here for drones, every member who has any work in him must do his share for the common good. In addition to standing committees on all important branches of horticulture, each county represented in the society has a committee whose chairman makes an annual report of everything of interest and value within his domain. The chairmen of most of these committees are among the foremost horticulturists of the country, and naturally their reports differ materially from the general average of such productions. In fact many of those read constitute exhaustive and carefully prepared essays upon the subjects in question.

We regret to have room only to name a few of the most important papers read. Prof. C. C. Caldwell on Bacteria; W. C. Barry on New Native Fruits; Geo. Ellwanger on Ornamental Shrubs, especially Crataegus; H. B. Ellwanger on Roses; Prof. Comstock on Scale Insects; Prof. Lintner on Protection against Insects; Prof. Lazenby on Elementary Substances of Plant Food; H. E. Hooker on Pruning Grapes; Chas. A. Green on Birds; J. J. Thomas on Relation of Roots to Plants; J. S. Woodward on Fallacies in Fruit Growing; P. C. Reynolds on Farmers Fruit Gardens; A. M. Purdy on Fruit Drying.

BOOKS AND PAMPHLETS RECEIVED.

Farm Library, No. 1, Flowers in Winter.—How to have Beautiful Flowers in the House. One Pot of Geranium, Flower Stand, Window Garden, Fernery, etc., by Eben E. Rexford. Published by E. H. Libby, Chicago. Price 10 cents.

Farm Library, No. 2; The Flower Garden.—Annuals; Bedding Plants; Spring and Summer Flowering Bulbs. Published by E. H. Libby, Chicago. Price 10 cents. In these little pamphlets, of which the two before us are the precursors, the publisher furnishes in compact form, at a uniform low price, condensed treatises of the most important branches of Agriculture and Horticulture. Each number of the series is complete in itself; the subjects are ably treated by experienced writers, and, to judge from what has already appeared, the *Farm Library* is well calculated to supply the wants of those for whose needs it is intended.

Kansas Agriculture.—The Fourth Quarterly Report of the Kansas Board of Agriculture is at hand promptly, and is not only a report for the quarter ending December 31st, but contains a summary for the entire year, together with the most recent and complete State map.

Those desiring copies should forward 7 cents in stamps to the Secretary, Wm. Sims, Topeka, Kansas, and while the supply lasts he will be glad to promptly forward them.

Menticulture and Agriculture, or What Our Schools Should do for Agriculture, is the subject of an address by the Hon. B. G. Northrop, before the Connecticut Board of Education, which comes to our table in pamphlet form. The author takes a broad and comprehensive view of the subject and many of his suggestions, if carried out, would prove beneficial additions to our school systems. The writer thinks that a love for practical, systematic work should be fostered in our schools, the time being past when nobility was but a synonym for idleness; now he is noblest "who works most and best for the common weal." The author further states, with much truth, that the education children receive at the public schools of to-day, is theoretical and not practical; they are taught those things which they have no earthly use for, at the expense of their daily needs, and would suggest that reading be made the principal study, as with that art thoroughly mastered, the pupil "can open any door in the Temple of Science." "To elevate farming," the writer says, "is to elevate the farmer." This can only be done by educating him to the dignity of his work; the realization of this lies in the common school system so modified that it will bring the greatest benefit to those whom it is intended to serve; for this end, elementary Natural History should be taught in its relations to the farm, and thus engender a taste for study and investigation; the author believes this would, in a way, "prove a partial substitute," for the Agricultural and Industrial schools of Germany, which have done so much for her national prosperity. The writer regrets the tendency of our young men to leave the farm, for city clerkships; besides the greater remunerativeness of the former, he claims also the greater social position and independence. We would, with him, gladly welcome the time, when our young men will get over this false pride and remain on the homestead, which is a far better friend to them than the over-crowded city.

CATALOGUES RECEIVED.

G. H. & J. H. Hale, *Elm Fruit Farm and Nursery, South Glastonbury, Conn.*—Special Trade List of Small Fruits, Quince and Peach Trees, with fine illustrations of the Souhegan Raspberry and Manchester Strawberry.

Houk & Peet, *Canajoharie, N. Y.*—Circular and Price List of Italian and Holy-Land Bees and Queens, and general supplies for the Apiary.

Chr. Lorenz, *Erfurt, Germany.*—Illustrated Catalogue for Owners of Gardens and Amateurs.

J. S. Lovett, *Monmouth Nursery, Little Silver, N. J.*—Special Circular of the Manchester Strawberry, its History, Description, Notices of the Press, and Opinions of Experts.

E. P. Roe, *Cornwall-on-the-Hudson, N. Y.*—Catalogue of Small Fruits and Grape Vines. A full descriptive list of all the leading varieties, with valuable cultural directions.

Hiram Sibley & Co., *Rochester, N. Y.*, and *Chicago, Ill.*—Catalogue of Seeds and Bulbs.

E. & J. C. Williams, *Chestnut Hill Nursery, Montclair, N. J.*—Descriptive Catalogue and Price-List of Small Fruits, Fruit Trees and Seed Potatoes. The Montclair Raspberry a specialty.

ANSWERS TO CORRESPONDENTS.

Books on Gardening.—*W. F. C., Worcester, Mass.*—"Money in the Garden," by P. T. Quinn, and "Gardening for Profit" by Peter Henderson, are the best American books on Gardening. Either one will be mailed from this office for $1.50.

Beans for Florida.—*Jas. G. O., De Land, Fla.*, writes: Black Turtle Soup Beans are the best Bean for this country I have ever tried, vigorous grower and profuse bearer. We are eating Snap Beans at this season (Dec. 30,) and they do equally well in the heat of summer. You can recommend them.

Drying Potatoes.—*S. B. Riverside, Cal.*—By a new process invented in California, Potatoes are pressed and dried so that they will keep for years without losing their natural flavor. The machine made for this purpose is capable of pressing and drying six hundred bushels of Potatoes in twenty-four hours.

Keeping Onion Sets.—*H. T. E., Hightstown, N. J.*—Sets as well as large Onions should be kept as dry and cool as possible, without being actually frozen, although they are not injured materially by frost, provided they are not handled while frozen. If spread on a tight barn floor and covered thickly with chaff or cut straw they will keep well till spring.

Hardy Grapes.—*M. N., Springfield, Mass.*—At the fall exhibition of the Southern Ulster Horticultural Society, which comprises among its territory the celebrated Hudson River Grape Regions, first prizes were awarded to the *Duchess* for the best hardy white Grape for general cultivation and market; the *Brighton* for the best hardy red Grape, and the Concord for the best hardy black Grape.

Preserving Posts.—*R. H., Holyoke, Mass.*—To preserve posts for trellises or fences, and poles as long as possible, the part which is to be in the ground and a few inches above it should be charred and then, before they are entirely cooled, soaked with coal tar. The charring process alone is worse than useless, and coal tar applied to uncharred wood cannot penetrate sufficiently to become preservative.

Plant for Name.—*J. J. G. Baltimore, Md.*—So far as it is possible to analyze so imperfect a specimen as the one sent, we should determine the plant to be *Rudbeckia fulgens*—Cone Flower—which grows in dry soil from Pennsylvania to Kentucky and southward, and although it may be rare in your immediate locality, is common throughout that region. The species *hirta*, which closely resembles it, is a common weed throughout the eastern states, and was much used by the ladies of New York for belt bouquets during the past summer, when it was sold in bunches on the street for a few cents. We would hardly feel justified in recommending you to grow the flowers for market, as from what we saw of them, the supply already exceeds the demand; the experiment on a small scale could not entail much loss, and should you make it we would be pleased to hear the result. We think you have been misinformed as to the prices the Field Daisy (*Leucanthemum vulgare*) brought in Boston, last summer. Here, in New York, at least, five cents bought a good-sized bunch of them.

MISCELLANEOUS.

Mistakes will Happen.—An exchange prefaces Whittier's beautiful Hymn, written for the *American Pomological Society*, thus:

"The following hymn, written for the occasion by Mr. John G. Whittier, was sung to the tune of 'Old Lang Syne' at the banquet of the *American Theological Society* in Boston."

Winter Reading.—Rev. E. P. Roe says, with much truth, that "country residents may do more to increase their crops by judicious reading in their armchairs, before a winter fire, than by months of unskillful and ignorant toil."

Keeping Vegetables in Moss.—Professor Beal recommends to pack Celery and other vegetables in damp moss, for keeping through winter. It is said that vegetables thus packed will not only keep a long time but retain their flavor and quality so well that they can hardly be distinguished from fresh ones.

Vegetables in Paris.—The consumption of vegetables in Paris last year was 1,027,000,000 pounds, which with a population of two millions or more makes the quantity used per capita about one and a half pounds per day.

Grapes and Malaria.—Those localities may generally be considered safe for the Grape in which there are no miasmatic influences. When malaria and fever prevail there is no safety for the crop, as the vine seems to be as susceptible to such influences as are human beings.—*Prof. G. Husmann.*

"Swet Vilinches."—What might that be, we thought, a few days ago, when we saw a peddler's wagon, with this mysterious sign affixed, pass our office. Presently the wagon stopped and the vender commenced to sell some fine Oranges to the passers by. This naturally led to a clue and we surmised that the words stood for "Sweet Valencias" (Valencia Oranges), and that the vender, in connection with selling Oranges, was endeavoring to introduce a new system of phonetic spelling of his own invention.

Local Lightning.—The *San Francisco Chronicle* says: "There is a tract of country in Butte County, Cal., about fifteen miles long by half a mile in width, where lightning strikes trees nearly every time a storm passes over. Outside of this strip there is no such damage. The line can be plainly traced by dead timber. As many as three fires have been caused by lightning in this tract in one single storm."

Petroleum Against Scale Insects.—Petroleum is an infallible specific against insects of every kind, but when applied in its crude state, proves generally injurious to Roses and other shrubs. It has been stated that mixed with castor oil it loses none of its efficacy to destroy the scale insects, while it is rendered more harmless to the tender parts of the plants and on the whole proves rather advantageous to the health of the plants. In applying it, in either form, care must be taken not to let it come in contact with the roots of plants.

Length of Roots.—The old idea that the roots of trees do not extend farther from the stem than the branches is rapidly disappearing. J. J. Thomas says: A rule adopted by old writers gave the length of the roots as equal to the length of the branches above. It is safe to say that this rule does not indicate generally more than a tenth of the ground which the entire roots really occupy. The truth is that they are usually longer on each side than the entire hight of the tree. A tree thirty feet high forms a circle of roots more than sixty feet in diameter. It is therefore useless to cultivate a small circle around the stem of a tree only.

A Five Hundred Dollar Bouquet.—It is stated that some one who had more money than brains paid $500 for a single bouquet which he presented to Miss Neilson. It contained two hundred Marshal Neil Rose buds, costing then from 75 cents to $1 a piece.

Some favorites of the stage receive sometimes twenty and more bouquets in one evening, and to dispose of this floral avalanche, it is not an uncommon custom for the maids of these actresses to sell the bouquets back again to the venders, who re-sell them the same evening in front of the theatre, probably to be thrown before the foot-lights again and repeat the circuit.

The Largest Farm in the World.—Mr. Oliver Dalrymple's "Bonanza" farm, in Dakota, of 30,000 acres, with 800 horses and mules and 800 men as a working force, is often described as the largest farm in the world, and, for all we know, it may be at present; but compared with some of the ancient farms it is a mere flea-bite.

Ninus inherited from his father, Nimrod, a farm as big as a good sized western state, with 120,000 cattle, 14,000 slaves, and about $600,000,000 as working capital, all of which he doubled before his death. Cyrus, the King of Persia, had at one time, 30,000 horses, 40,000 cattle, 200,000 sheep, 15,000 asses, and 25,000 slaves, and three thousand million dollars spare cash besides. This is what may be called "farming under easy circumstances."

The Macadam and Telford Roads.—The Macadam patent road has uniformly broken stone from top to bottom. The Telford patent has large stone at the bottom, preferably long, and placed largest ends downwards. The Central Park practice, since imitated everywhere, was to use Macadam only six or eight inches deep on those portions of the Park where the bottom was sand or earth which is not changed by water, and to use the Telford about two feet deep on all those portions where clay occurred. All roads must be rolled with a filling of finer broken stuff or gravel at the extreme top; otherwise the broken stones would move under the rollers, and under the wheels of heavy carriages. A test of good condition is to put lumps of trap or other hard rock on the finished surface, and to move a heavy steam roller over it. It must crush the loose stone without indenting the road.

Broken pieces about two inches square could be produced much more cheaply, and singularly were much more valuable, for repairing roads than finer broken material. It must be understood that there is a finer packing of gravel between the stones at and near the surface in all cases.—*Samuel S. Marsden, before the Polytechnic Association of the American Institute.*

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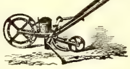

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The fruit is of a light golden yellow, covered with fine bloom; bunches very large. sometimes shouldered; berries round, very large, and thickly set on the bunch; quality better than the Concord in its best state.

When fully ripe it is clear, juicy, and sweet to the center, with very little or no pulp; slightly musky, but not unpleasant. Ripens with the Concord, and eventually, will prove to be the **White Grape for the million**—both for MARKET AND HOME USE—and is adapted to succeed in all sections of the country.

At the New York State Fair, held in Rochester, September, 1877, it was greatly admired, and the committee, of whom M. B. Bateham of Painesville, O. (the acknowledged Downing of the West), was chairman, pronounced it *the very Grape we have all been so anxiously looking for so long.*

Mr. Thomas Meehan, editor of the *Gardeners' Monthly*, October 14, 1879, writes: "I find your plants of the Pocklington Grape are growing finely. It is one of the best growers we have. From what I have seen of it, it is a very promising variety."

The *American Agriculturist* says of it: "Of much better quality than Concord; intensely sweet, and less of the Labrusca quality in the taste than in the smell. The berry adheres well to the stalks, and has every appearance of being a good keeper. The great size and copious bloom make this Grape most attractive to the eye."

The following **First Premiums** have been awarded to the Pocklington Grape:

Western New York Fair, 1878.
Provincial Exposition, Toronto, 1879.
Dominion Exhibition, Ottawa, 1879.
Western New York Fair, 1879.
Geneva, N. Y., Fair, 1880.
Western New York Fair, 1880.
Provincial Exhibition, Toronto, 1880.
And many County Fairs.

Price, by mail or express, for choice One-Year-Old Vines, $1.05 each; $15.00 per dozen. A few Two-Year-Old Vines at $2.00 each.

B. K. BLISS & SONS,
34 Barclay St., New York.

BRAZILIAN ORCHIDS.

Being established in business in the city of Para, I am prepared to fill orders for Orchids indigenous to the Amazonian Valley, such as Cattleyas, Oncidiums, Stanhopeas, Galendras. Lists and prices on application.

EDWARD S. RAND, Jr.,
Para, Brazil.

Randolph's Hand Seed Sower.

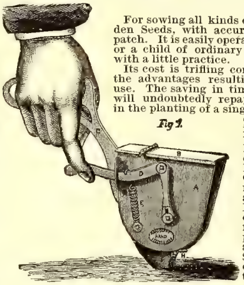


Fig 1.

For sowing all kinds of small Garden Seeds, with accuracy and dispatch. It is easily operated by a lady or a child of ordinary intelligence, with a little practice.

Its cost is trifling compared with the advantages resulting from its use. The saving in time and seeds will undoubtedly repay the outlay in the planting of a single week. Its construction is so simple, that it is not liable to get out of order. Descriptive Circulars mailed to all applicants. Price, $1.25 each. Sent by mail, postpaid, to any address, for $1.50. A liberal discount to agents.

For sale by

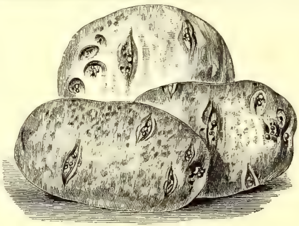
B. K. BLISS & SONS.

BERRY BASKETS AND CRATES,

BEST AND CHEAPEST.

Money refunded if don't suit. Neat, strong, durable. All that can be desired. Send for large descriptive circulars.

N. D. BATTERSON.
Buffalo, N. Y.



New Varieties Potatoes.

VERMONT CHAMPION,
BROWNELL'S BEST,
EARLY HOUSEHOLD.

Varieties of 1881.

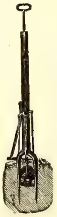
EXTRA EARLY PEACH BLOW,
ADIRONDACK, WHITE STAR,
AMERICAN MAGNUM BONUM,
QUEEN OF THE VALLEY,
AMERICAN GIANT.

For description and price of the above, send for our Illustrated Potato Catalogue, 48 pages, which contains much useful matter upon their culture. Mailed to all applicants inclosing 10 cents, regular customers free.

B. K. BLISS & SONS,
34 Barclay St., New York.

THE ISBELL MOLE-TRAP.

IT NEVER FAILS.



Having been thoroughly convinced of the pressing need of some device for catching and destroying the under-ground mole, which is overrunning cemeteries, parks, lawns and gardens, no labor, experiment or expense has been spared in inventing and perfecting a trap which we do not hesitate to say will effectually meet the demand.

It is acknowledged by all who have given it a trial as the best device ever invented for the purpose. When properly set it never allows the mole to escape, and no skill is required in setting it.

Nothing but a small wooden pin is visible in the track, which the mole is sure to run against, the slightest touch springing the trap, which never fails to catch and kill the mole.

PRICE, $2.00 EACH.

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in "Peterson" are ahead of all others. These plates are engraved on steel, TWICE THE USUAL SIZE, and are unequalled for beauty. They will be superbly colored. Also, a FULL-SIZED PAPER PATTERN for a dress every month. Also, Household and other receipts; articles on Art Embroidery, Flower Culture; in short, everything interesting to ladies.

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CHARLES J. PETERSON,
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☞ Specimens sent gratis, if written for, to get up clubs with.

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300 Choice Poetical Selections for Autograph Albums, neatly bound; **250** spicy Motto Verses, and **25** popular Songs, all for 15c., post-paid.
PATTEN & WADE, 49 Barclay St., N. Y.

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AND GUIDE.

A valuable Book of over 200 pages solid Reading matter, from the pens of the best writers of the day, devoted to the Interests of Farmers, Stock Breeders, Poultry Fanciers, Dairymen, Bee Culturists, Gardeners, the Fireside, etc.

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STRICTLY FIRST-CLASS

Small Fruit Plants,

GROUND-LAYER PLANTS.

50 cents per dozen, sent by mail, post-paid; $1.00 per hundred, expressage to be paid by purchaser.

Raspberries, Blackberries, Currants,
Gooseberries, Grape Vines.

☞ Catalogue mailed free to all applicants. Address

F. M. HEXAMER,
NEW CASTLE, Westchester Co., N. Y.

SPRING WHEAT AND RYE.

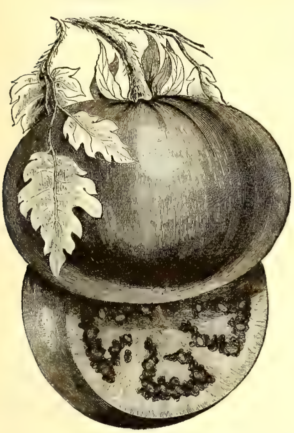
DEFIANCE, very hardy and productive,	bush.,	$5.50
CHAMPLAIN, a red, bearded variety, fine,	"	5.50
WHITE RUSSIA,	"	2.50
SPRING RYE,	"	1.75

3 lbs. either of the above varieties mailed, post-paid, for $1.

B. K. BLISS & SONS, NEW YORK.

NEW EARLY TOMATO.

MAYFLOWER.



In this new seedling variety, originated by Mr. F. H. Hosford, of northern Vermont, which we have the pleasure of introducing this season, all the qualities desirable in a Tomato are combined in a degree not heretofore attained. It is the earliest large Tomato cultivated, ripening but a few days later than "Little Gem," and averaging in size about one-third larger than "Acme." It is of that glossy, bright red color so desirable in a market Tomato, and ripens so evenly and perfectly up to the stem, that it presents a most beautiful appearance. Its shape is perfect, globular slightly flattened, and perfectly smooth; flesh solid, unusually free from seeds, and of a pure, rich flavor. In productiveness it is not excelled by any other sort, bearing full crops until killed by frost. Its skin is firm and smooth, indicative of the best shipping qualities. A box of them which, after having been roughly handled during a long journey, was exhibited by us at the last Grand Exhibition of the Massachusetts Horticultural Society, held at Boston in connection with the Exhibition of the American Pomological Society, was awarded the first prize as the best seedling. Price, 25 cents per packet; five packets, $1.00.

B. K. BLISS & SONS,
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15c "**A Violet** from Mother's Grave," and **49** other popular **Songs**, words and **music** entire, all for 15c. PATTEN & CO., 47 Barclay St., N. Y.

EXRA CHOICE GERANIUM SEEDS.

We have succeeded in saving a limited quantity of seed from a very superior collection, and we confidently offer it as being of a quality that cannot be surpassed. Only such plants as were perfect in every feature were selected for seed, and all were artificially fertilized with the greatest care. We believe the double will produce from 75 to 90 per cent. of double-flowering varieties, while the single will retain all the excellence of the parent plants.

DOUBLE GERANIUM.—Per pkt. (of 20 seeds), 50 cents.
SINGLE GERANIUM.—Per pkt. (of 25 seeds), 50 cents.

B. K. BLISS & SONS, 34 Barclay Street, N. Y.

USE IMPERIAL EGG FOOD.

It will cost only from ½ to 1 cent per day for every 15 fowls. It will keep them in fine condition and make them lay eggs.

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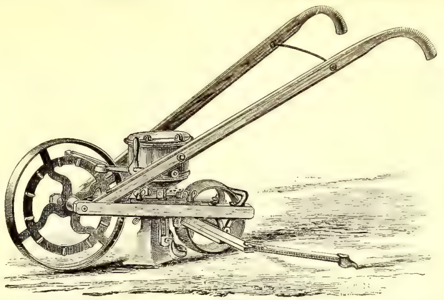

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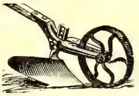
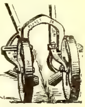
With all of Matthew's latest improvements, and made under his personal supervision. Simple and perfect in operation. Local Agents wanted. Price $12. Address,

R. H. ALLEN & CO., 189 and 191 Water St., New York.



THE PLANET JR. GOODS.

In preparing our new goods for 1882, we have added to our list a number of ingenious and successful **GARDEN TOOLS**, so proven by numerous tests this year. We are also getting ready a much larger and more complete descriptive catalogue than any we have heretofore issued. This will be full of valuable information to every one who tills the soil for profit, and will be mailed free to all who apply now to



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A neat and beautifully illustrated pamphlet giving complete descriptions and mode of cultivating 200 species and varieties of Lilies, (all the known kinds). It tells how to plant, when to plant; all about collecting and keeping, forcing, blight, etc. It gives a complete description of each variety—height, color, time of bloom, nativity and any peculiarity it may have as regards culture. Lilies are of very easy culture when their requirements are fully understood, The reason why so many fail is for want of knowledge concerning their treatment. This work is calculated to supply the long felt need, and is worth ten times its price to all who are interested in this most beautiful class of flowers.

PRICE, POST-PAID 15 CTS. TWO COPIES, 25 CTS. Postage Stamps Accepted.

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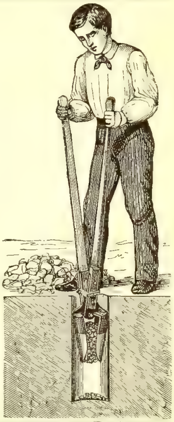
QUEENS, N. Y.

THE IMPROVED

EUREKA POST-HOLE DIGGER.

THE ONLY PERFECT DIGGER IN THE MARKET.

When the Utility of this Digger is Known, no Farmer, Nurseryman, Railroad or Telegraph Company will do without it.



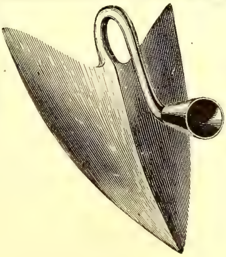
The GRAND MEDAL and DIPLOMA at the Centennial Exposition, and the only medal given a Post-Hole Digger, were awarded us for "DISTINGUISHED MERIT" and "GREAT EXCELLENCE." We have exhibited the Digger at several State and County Fairs, and have never failed to receive the prize wherever exhibited.

This tool has been thoroughly tested during the past three years, and as yet no place has been found where it has failed to do its work satisfactorily. The principle on which it works prevents adhesion in sticky soils, hence it always works free and easy; **no clogging, no knee work, no backache.** It is far superior to all **Plungers, Augers,** and **Boring Machines,** as it works equally well in **stony, sandy,** and **clay soils. Quicksand** under water is as certainly handled and removed as though no water existed. Hundreds have used them for setting **curbs in wells** where there was quicksand. For **setting out trees,** and transplanting it is unequaled; also for **cleansing out wells,** and for **tiling.**

The length of the steel blade is nine inches, and the extreme length of the tool five feet; weight only eight pounds.

Descriptive circulars mailed free. **Price, $3.00.** For sale by

B. K. BLISS & SONS, New York.



WARREN HOE.

It is perfectly adapted for Field, Nursery or Garden. Is *superior* to any other hoe at all work for which a hoe is intended, such as Pulverizing, Planting, Hilling, Weeding, Scraping, Chopping out, etc. They are made of *Solid Cast Steel, with Trowel temper*, and warranted not to break with fair usage. No farmer or gardener can afford to do without them, and spend their time and strength on the old hoe. You may not like the looks of them at first, they being so different from the hoe we have been using for thirty years; but use it until you become accustomed to it, and twice its cost will not get you to do without.

It has two sharp edges on either side, extending to the point, making a cutting surface of 16 to 18 inches.

Has a *draw cut* on the principle of a scythe, or as you would hold your knife or any cutting tool, and cuts to the *best* advantage.

Will scour in *any soil*, because it has curves like the mold-board of a steel plow.

Cannot well break, as central ridge is great support.

Prices, No. 1, Ladies' and Garden Hoe, $1.00 each; No. 2, Garden and Field Hoe, $1.25 each; No. 3, Field Hoe, $1.25 each.

B. K. BLISS & SONS, 34 Barclay St., New York.

THE MAPES COMPLETE MANURES,

For Early Potatoes, Vegetables and General Crops.

TOBACCO AND FRUITS.

Messrs. G. H. & J. H. HALE, Proprietors of the "Elm Fruit Farm," South Glastonbury, Conn., write, November 7, 1881: "Have tested almost every manure used in the Connecticut Valley for tobacco-growing, and if next spring we were to plant twenty acres of tobacco every acre of it would be manured with the Mapes Tobacco Manure (Connecticut Brand). Any one opposed to the use of commercial fertilizers is cordially invited to visit our fruit-farm of fifty acres, on which nothing else has been used for five years, and we think none will be, so long as we can get as good results as at present."

TOBACCO AND CORN.

J. E. WIGHT & SON, North Hatfield, Mass., write, November 11, 1881: "We have used the Mapes Tobacco Fertilizer for the past three years on one acre of poor land, and can say that 1,600 lbs. per acre has produced better tobacco than where we have used eight cords of stable manure to the acre. We sweat our tobacco and sell to the manufacturers, and have always been able to obtain *a higher price for the fertilized tobacco* than for the manured tobacco. We also used the Mapes Corn Fertilizer, forty dollars' worth on four acres, and harvested 500 bushels of ears of sound corn—soil light, and has been cropped with corn and rye for the past twenty years, and has received no manure for ten years."

POTATOES AND CORN.

Messrs. E. & J. C. WILLIAMS, Proprietors of the Chestnut Hill Nurseries, Montclair, N. J., December 27, 1881, writes: "We have kept no record that will show in figures the comparative results from the use of the Mapes Complete Manures. For several years, however, our potato and corn crops have been grown by the use of the Mapes Complete Manures alone, and the yields have invariably been more than satisfactory. We have found it *impossible to obtain smooth potatoes on our soil by using barn-yard manure*, but since we have been using the Mapes Potato Manure we have experienced no further trouble. The fact that we continue to use an increased quantity of the Mapes Manures each year, is good evidence that we think well of them, and we unhesitatingly recommend them to farmers."

SWEET CORN, POTATOES, CABBAGES AND GREEN PEAS.

R. F. SCHWARZ, Analomink, Monroe Co., Penn., October 28, 1881, reports: "**Sweet Corn.**—600 lbs. per acre of the Mapes Corn Manure. Yield was 27,000 good ears on one and a half acres. From five tons of wood ashes (tannery ashes) per acre, yield was *not one-third* as many marketable ears. Yield from natural soil was only 500 good ears on one-fourth acre. **Potatoes.**—800 lbs. per acre of the Mapes Potato Manure. Yield 160 bushels per acre. Yield from natural soil 50 bushels per acre. **Cabbages.**—1,000 lbs. per acre of the Mapes Complete Manure. Out of 8,000 plants there *were not 200 plants that did not head*. The heads were larger and the yield much better than where stable manure (20 tons per acre) was used alongside. **Green Peas.**—500 lbs. per acre of the Mapes "A" Brand. Yield was 195 bushels of green peas on one and three-fourths acres.—The extraordinary drought of the past season has prevented the Mapes Manures from giving the best effect, particularly on late crops."

Extract from the AMERICAN AGRICULTURIST, February, 1882.

"Among the makers of fertilizers 'The Mapes Formula and Peruvian Guano Company' early took the ground that the proper way to build up a reputation was to court analyses of their fertilizers. We have recently been shown the returns of some THIRTY ANALYSES, made at different experiment stations. The samples were in part sent by farmers and in part were taken by representatives of the stations from stock on sale. IN NO CASE DID THE PERCENTAGES OF THE VALUABLE CONSTITUENTS FALL SHORT OF THE AMOUNT CLAIMED. The valuation at the stations, as calculated from the analysis, averaged for the whole $1.15 PER TON HIGHER THAN THE SELLING PRICE. Some samples were worth rather more, and some a little less, but the average is as above stated. It is but proper to add that the results obtained by the tobacco growers in Connecticut, the growers of asparagus, cauliflowers and other 'truck' on Long Island, and the potato and wheat farmers of New Jersey, all show that the plants find in the fertilizers the value indicated by the chemists."

SEND POSTAL FOR NEW PAMPHLET (Issued in February).

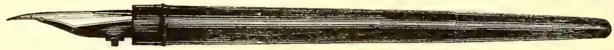
THE MAPES FORMULA & PERUVIAN GUANO COMPANY,

Agricultural Chemists, 158 Front Street, New York.

New stock of No. 1 Peruvian Guano, "Standard," "Lotos," and "Guaranteed." Send for prices.

PRINCE'S FOUNTAIN GOLD PEN

Holds Ink for Fifteen Hours' Writing.



It has given Universal Satisfaction for the past Twenty-five Years.

TESTIMONIAL.

OFFICE OF AMERICAN GARDEN.

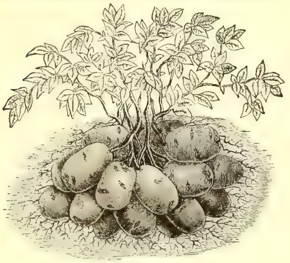
DEAR SIR: I have used your Prince's Fountain Pen for about ten years and believe them to be the best Fountain Pen made. During this period I have tested nearly every pen of this description in the market, with the same result: the new pen discarded and Prince's Pen restored to favor. There is this objection to them, however, that after a person has once used a Prince's Pen he will never be satisfied with any other. Yours truly,

E. W. BLISS.

Also the EVER READY FOUNTAIN GOLD PEN.

Holds ink for ten hours' writing. Writes at the first touch to the paper, without adjustment or preparation. Pronounced by experts to be the best Fountain Pen made. Send for Circular, to

JOHN S. PURDY, 165 Fulton Street, New York.



ALPHA,

The Earliest Potato Known.

A very early variety for farm and garden culture, also for forcing under glass; fit for the table ten or fifteen days before the Early Rose. Of medium size, clear white with the slightest tinge of red about the eyes; flesh very white, fine grained, dry and of excellent flavor; quality of the highest excellence. A first-class certificate was awarded by the Royal Horticultural Society of London, in 1874. A silver medal was also awarded by the Massachusetts Horticultural Society. We can recommend this with the greatest confidence **as the very best early variety in cultivation.**

Per pound, 50 cents; three pounds to one address, $1.25, by mail, prepaid. By express or freight, charges paid by the purchaser, peck, $1.25; bushel, $3.00; barrel, $7.00.

B. K. BLISS & SONS,
34 Barclay St., New York.

RELIABLE ONION SEEDS.

Our stock of Onion Seed has been raised from selected bulbs, and carefully tested, and we can recommend it with the greatest confidence, as equal to any ever offered in this or any other market.

	oz.	*¼ lb.*	*lb.*
Extra Early Red,	$0.40	$1.25	$4.75
Early Red,	40	1.25	4.50
Wethersfield Large Red,	40	1.25	4.50
Danvers Yellow,	40	1.25	4.25
Yellow Dutch,	35	1.25	4.25
White Portugal,	40	1.25	4.25
Red Globe,	50	1.50	5.50
White Globe,	50	1.50	5.75

In lots of 5 lbs. and over, 50 cents per lb. may be deducted. Special prices given for larger quantities.

Postage must be added at the rate of 16 cents per pound when ordered by mail.

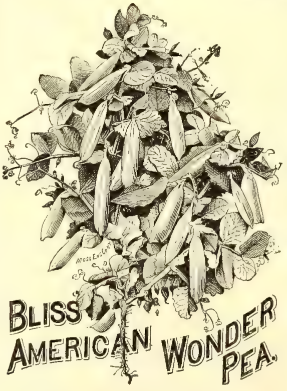
B. K. BLISS & SONS, 34 Barclay St., New York.

The Earliest and Best Dwarf Wrinkled Pea.

THE MOST DESIRABLE PEA EVER INTRODUCED.

BLISS'S
AMERICAN
WONDER

Extra Early. **Requires No Bushing.** **Exquisite Flavor.**



The best variety for forcing under glass, and the best for early sowing in the garden.

☞ On account of its exceedingly dwarf habit, it can be grown in Hot-Beds, like cucumbers or lettuce.

This new and fine-flavored variety is a seedling, the result of a cross between the favorite varieties, *Champion of England* and *Little Gem*, raised by Mr. Charles Arnold, the well-known Canadian agriculturist. It combines all the good qualities of both of its parents, with the additional ones of superiority in flavor to the Champion and of greater productiveness than the Little Gem, besides being earlier than any other of the wrinkled varieties. Peas planted June 5th were ready for the table in thirty-three days from date of planting. On good soil, each vine will average twelve pods, and each pod six peas. Twenty-seven to forty-one pods have been counted on some vines, and nine large peas in some of the pods, and every pod is well filled. The vine grows from eight to ten inches high, according to the soil and season. Having full confidence in the superiority of this variety, we bought the entire stock of the originator, and first offered them in the spring of 1878, since which they have been tested in various parts of the world, and have met with the unqualified approval of all who have given them a trial, For the past three years the demand has been far greater than the supply, and we have been unable to fill our orders.

CAUTION.—As there is another pea in the market called "American Wonder," be sure and call for "BLISS'S AMERICAN WONDER," and receive no other.

From **Rev. Henry Ward Beecher**, July 14, 1881.—Your peas are wonderful, none others so good. I do not mean to plant another year any others, early or late. They beat the Alpha in earliness, and out of sight in flavor.

From **Hon. Marshall P. Wilder**, *Pres. American Pomological Society, Ex-Pres. U. S. Agricultural Society*, June 30, 1881.—MY AMERICAN WONDER *is a wonder*, equal in sweetness and richness to the Champion of England, which is all that could be desired.

One of our growers writes, August 25, 1881: Twenty-seven and one-sixth bushels of AMERICAN WONDER PEAS were grown from one bushel of the seed you sent, upon a trifle over an acre of ground.

PRICES.—One-third pint package, 20 cents; pint, 55 cents; quart, $1.00; by mail, post-paid. When delivered at our store, or sent by express at the expense of the purchaser: one pint, 40 cents; one quart, 75 cents; half peck, $2.75; one peck, $5.25.

B. K. BLISS & SONS, 34 Barclay Street, New York.

The
AMERICAN
GARDEN
W.H.Gibson del.

Vol. III. NEW YORK, MARCH, 1882. No. 3.

The American Garden.

A MONTHLY ILLUSTRATED JOURNAL.

Devoted to the Gardening Interests of America.

ONE DOLLAR A YEAR.

SINGLE NUMBER, 10 CENTS.

Dr. F. M. HEXAMER, - - Editor.

B. K. BLISS & SONS, Publishers,
34 Barclay Street, New York.
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For March, 1882.

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IMPORTED VEGETABLES.

We have become so accustomed to send our annual surplus products of the soil to Europe, in exchange for various luxuries, that when we suddenly find the tables turned and are told that foreign countries have shipped to the port of New York alone over one million dollars worth of vegetables in one year to be paid for in hard cash, we can hardly believe its truth. Yet these are the facts and figures as they were kindly furnished us by Collector Robertson.

The imports of vegetables into the port of New York in 1881, were:

Potatoes, 785,792 bush.,	$446,096
Peas and Beans, 19,582 bush.,	22,913
Various vegetables,	410,377
Sauerkraut,	126,134
Total,	$1,005,520

These were of course, only the prices as invoiced, which, with transportation, duties, commissions, etc., added would at least double the selling prices.

The import duty on Potatoes is 15 cents per bushel; on Peas, Beans, Cabbages and other vegetables, 10 per cent., while sauerkraut, which is nothing but pickled Cabbage, is duty free. This is certainly a tariff anomaly not promotive of home industry, to make the manufactured article free while the raw product is taxed.

The importations of Potatoes during January and February, 1882, have been considerably larger than in any month of the previous year, and have been steadily increasing, from 2,000 to 3,000 tons arriving every week. Nevertheless the prices of Potatoes are higher now than they have been at any time during winter, and are not likely to decrease before our markets can be supplied from Florida and South Carolina.

Importers of vegetables are hopeful that this new dispensation may be the forerunner of a regular import trade in this line of products, and are eagerly trying to create the impression that European vegetables are of better quality than our own. Of Cauliflowers and perhaps Cabbages in a dry season, this may have some truth, as these vegetables find in the damp atmosphere and the drained marshes of Holland their essential elements in high degree. But to assert the superiority of European over home-grown Potatoes is imposing boldly upon the credulity of those who know what a good Potato is. We have tasted a great many kinds of Potatoes from nearly every country in Europe, but every new trial only confirms our belief that good American varieties, grown here in suitable soil, with good cultivation, cannot be excelled, if equaled, anywhere.

NOTICES OF THE PRESS.

The American Garden, of New York, was such a success as a quarterly that Messrs. B. K. Bliss & Sons will henceforth publish it as a monthly. In point of ability in editing, excellence of matter, and mechanical beauty, this journal heads the list of American horticultural publications.—*Farmers' Review.*

The American Garden.—This illustrated journal of horticulture, which has heretofore appeared as a quarterly, comes on the 1st of January as a monthly. It is edited by the veteran horticulturist, Dr. F. M. Hexamer, who has no superior in this country as a practical and scientific horticulturist. The aim of the editor is to furnish a monthly which will give information and suggestive hints, of a practical character, to those who have city yards and small suburban places with limited resources. The articles in the present issue are timely, well chosen, carefully written by persons familiar with the subjects treated. The low subscription price of $1 a year, will make this neatly dressed journal a welcome visitor to hundreds who will be instructed and interested in reading its pages.—*Newark Daily Advertiser.*

The American Garden, since it came under the editorship of Dr. Hexamer and the control of B. K. Bliss & Sons, has been greatly improved, and has in consequence attained an extensive circulation. Its readers have been so entirely satisfied with it, and so many of them have urged its more frequent issue, that the publishers begin with the January number to make it a monthly at $1 a year. Though published by one of the great seed houses of the country, its readers have a guarantee that, under the editorship of a man of the high character and attainments of Dr. Hexamer, it will never take on the form of a mere trade circular, but will be kept abreast of the times as a first-class horticultural journal. The publishers themselves, we are confident, have no other purpose than to give the patrons of The Garden full and more than full value for their money, without seeking unduly to advance their mercantile interests (so effectively supported by the wide and gratuitous distribution of their elegant and costly "Hand-books and Catalogues") through its columns. We do not know where our readers who are interested in horticulture can better seek information in that department than by subscribing for The American Garden. Specimen numbers will be sent free on application to B. K. Bliss & Sons, 34 Barclay Street, New York.—*Vermont Watchman.*

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The Vegetable Garden.

SEASONABLE HINTS.

In our last number we dwelled upon the importance of "fore-handedness," and the necessity of making immediate preparations for all intended work. To all those who have not heeded our advice we renew it most urgently. But there is another class of people who go to the other extreme, who when the calendar indicates spring, when the days lengthen perceptibly, and when the blue birds come and the robins commence to build their nests, become so imbued with the awakening of nature that they think they must help it along a little by making garden? Let us assure these that there is nothing gained by too much hurry and by being ahead of the season.

Ground should never be worked before it is in a fit condition. Heavy, clayey soils especially, should never be plowed or spaded before they are dry enough not to turn up lumpy; and seeds should never be put in the ground before it is dry and warm; they cannot germinate in cold, wet soil. Such haste results not only in disappointment and loss of the seeds, but often in serious deterioration of the soil during the entire season.

Seeds for Hot-Beds. — The proper selection of varieties for sowing in hot-beds is generally a difficult task for the beginner. Of vegetables which are not transplanted but used directly from the bed, we want, of course, the earliest kinds, and such that force well.

Radishes.—The *French Breakfast* is excellent and is a universal favorite for hot-bed culture. *Early Scarlet Turnip* and *Olive Shaped* are hardly less valuable for this purpose, especially the *White Tipped* sort, which has lately become popular, is very handsome and of the mildest flavor.

Lettuce.—For earliest use and cutting without transplanting, *Early Simpson* and *Early Curled Silesia* are the most desirable, and when transplanted, either in the hot-bed or out doors they head very early, forming large, crisp and tender, although not very solid heads. For transplanting and the production of large, well-formed, solid heads. later in the season, *Boston Market* and *Tennis Ball* are not excelled, although the *true Butter Lettuce* is perhaps the best in quality.

A short row of *Extra Moss Curled Parsley* should not be forgotten, and where forcing of vegetables is conducted on a large scale, *Early Horn* or *Earliest French Forcing Carrot; Early Dark Red Egyptian Beet, Early Bush Beans* and *American Wonder Peas* should have a place in the hot-bed.

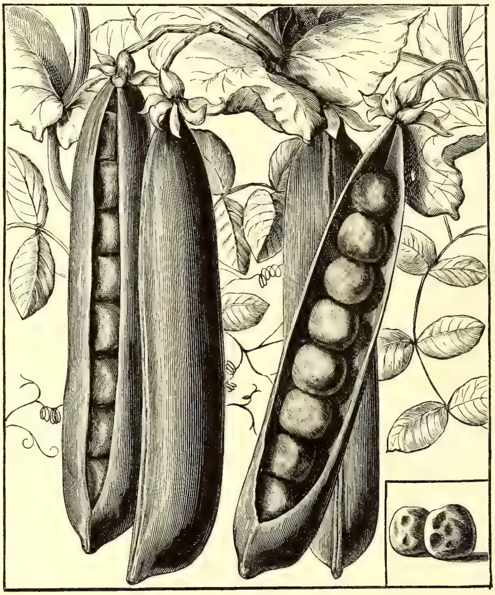
In the center of each sash a hill of *Improved White Spine Cucumber* and *Musk-Melon—Christiana* is one of the best—may be planted; these will grow without interfering materially with the other plants, and will, after the latter have been removed, occupy the entire ground, yielding fruit many weeks before it can be had out doors. A few *Tomato* plants may be grown in the same manner, if "well pinched in."

DAY'S EARLY SUNRISE PEA.

This was the euphonious name on one of the packages of a dozen or more new English Peas which were tested on our experimental grounds last summer. The bag which contained the Peas bore also the following description of how they behaved in England:

"Hardy, robust in growth, and of a size and quality hitherto unknown among First Early Peas. Vine 2½ feet long; very strong and vigorous; pods in pairs, long, large, well-filled and borne in profusion throughout the entire length of vine. By its remarkable size, quality and early maturity it is calculated to supersede other varieties for early market, and is especially recommended to market gardeners as the first and best market Pea."

Naturally we did not anticipate to find all these promises realized, but to our surprise, reality came much nearer to them than we dared to expect. It was not as early as *American Wonder* but earlier than any other tall early wrinkled Pea, and of unsurpassed quality. It grew four feet high, had very strong and healthy foliage and, when covered with its long, full, dark green pods, as it was for some time, presented a most beautiful sight.



DAY'S EARLY SUNRISE PEA.

RAISING EARLY VEGETABLES.

In the latitude of New York City the last week in March will be found sufficiently early enough for the amateur to start the seeds of early vegetables. Gardeners who have had some experience in the management of hot-beds and who raise vegetables for market, make preparations earlier, and to good advantage, but, for home use, little is gained by trying to force vegetables before the middle or latter part of this month.

A hot-bed is, of course, the first thing necessary, but a cold frame will be found nearly as indispensable for properly hardening off the plants after they have been removed from the seed bed.

Hot-bed sashes are usually made six feet in length by three in width, and, for a family of ordinary size a frame of two sashes will be found sufficient, while for properly hardening off the plants a cold frame of four sashes will be required. Presuming that our hot-bed is all prepared and well supplied with the necessary straw mats or shutters, the next thing to be considered is the sowing of the seeds. Now it is the custom with many to cover the manure with six or eight inches of soil, and then to sow the seed thinly in drills. I do not like this method for several reasons, and instead of sowing in drills I use shallow boxes divided into suitable sized compartments according to the number of varieties of seeds to be sown. These boxes can be quickly and readily made, a common sized soap box will make three, of about two inches in depth, which will last for several seasons if taken care of.

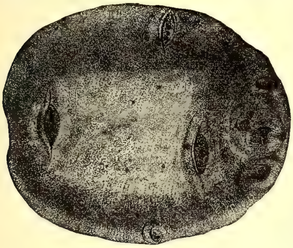
In sowing seeds in these boxes keep all those that require the most heat, such as Egg Plants Peppers etc., in a box by themselves, while those requiring less heat, as Cabbage, Lettuce, etc., should be sown in other boxes. The best compost for sowing seeds is made of one-half well rotted sods, and one-half well-rotted manure, well mixed and run through a sieve. If rotted sods cannot be had conveniently, good garden soil will answer almost as well. The boxes should be nearly filled with this compost, and evenly pressed, so as to present a level surface, the seeds should be sown thinly and covered to about their own depth, the covering should be slightly pressed so as to prevent the air from drying up the seeds. The box containing the seeds of Egg Plants, Peppers, etc., should be placed in the center of the frame or where they obtain the most heat.

Water should be given whenever necessary, and care should be taken that the plants never suffer for the want of it. It is an excellent plan in cold weather to heat the water just enough to take the chill off it.

Air should be given on all mild days; no definite rule can be given for the time of doing this, as all depends on the weather and outside temperature. While the seeds are vegetating it is well to cover the sash with a thin piece of cloth during bright sunny days but after the seeds are up, and air is properly given, there will be no necessity for shading.

As soon as the seedling plants can be handled, they should be carefully taken up and transplanted from one to two inches apart in other boxes. After this operation they should be kept rather close and shaded for a few days, or until they have taken root. As soon as they become well established the most hardy varieties can be removed to the cold frame, where air should be abundantly given them. On mild days the sash should be entirely removed, and every effort made to induce a stocky growth. If a person has the necessary time the plants will be rendered much more robust and hardy by being transplanted from the boxes into the cold frame two or three inches apart, but this is not absolutely necessary. The more tender sorts, Egg Plants, Tomatoes, Peppers, etc., should be permitted to remain in the hot-bed until they have attained a height of from eight to ten inches. Previous to this, when five or six inches high, they may be potted off into two or three-inch pots, plunged in the hot-bed, and after a time removed to the cold frame. The pots will have to be turned occasionally, to prevent the plants from rooting into the soil. Egg Plants and Peppers are the most tender plants, and should remain under glass until about the middle of May when they may be gradually hardened off and planted in the open air.

After the boxes containing Cabbage, Lettuce, etc., have been removed from the hot-bed their places should be supplied with other boxes containing inverted sods cut in pieces about three inches square; on these sods may be placed the seeds of Cucumbers, Okra, Corn, Musk and Water Melons, Lima and other Beans, covered slightly with the compost above referred to, and treated precisely as the first sowing. The plants will become well rooted in the sods, and can be removed to the open ground without being checked in the least, if carefully done. Beets and Kohlrabi may be sown thinly in a box, and when large enough, transplanted to the open air. Sometimes I have been fortunate in obtaining a very early crop of Beets by this method, but occasionally they do not do as well as those that were sown in the open air. Yet I would advise to try a few rows of Beets, as when they succeed they are much prized. The Dark Egyptian is best for this purpose. Potatoes may also be started in these boxes, and when they have grown about an inch or two, they may be carefully removed and planted in the open ground. The Early Alpha is the most valuable for forcing.


VERMONT CHAMPION.

One season my fall-sown Spinach was smothered and entirely destroyed by the ice. This being a serious loss to me I sowed a few boxes of the Round Leaf variety in a hot-bed, and as soon as the plants were strong enough transplanted them in rows in the open air. Whether it was worth all the time and trouble I could not say, but I do know that it did well and was all used up before what I sowed in the open air was fit to use. I never had occasion to try the experiment a second time, so whether this method would prove generally successful or not I am not able to decide. In growing vegetable and other plants in hot beds or cold frames the most essential point is to give them an abundance of light and air at all suitable times, to allow them sufficient space and ground for the full development of each plant, that they do not crowd each other, and to take every care that they do not become "drawn" and thus rendered worthless. Of not less importance is the judicious selection of seeds. As a general rule, the most satisfactory results are obtained from the earliest varieties.

Charles E. Parnell.

ONION CULTURE.

Onion raising in Wethersfield fifty years ago was conducted very differently from the present practice. Then seed sowers, hand cultivators and weeders were unknown, and barn-yard manure and ashes were the only fertilizers used. The Onions were grown on raised beds in old gardens year after year, by women creeping over them on hands and knees, sowing with thumb and fingers, and covering, hoeing and weeding by hand. Smut and maggots were not known, but the crop was sometimes struck by what was called the "blast," after beginning to bottom, which showed itself by mould, or fungus on the leaves, turning them black and stopping the growth of the Onion.

SOIL.

It has been found that almost any soil not too wet or too dry,—a light sand or stiff clay excepted—when properly prepared and manured, will produce good crops of Onions in any of the Northern States, when not injured by maggots, and when good seed of a good and productive variety is sown at the proper time and thoroughly cultivated and kept clean.

It is a mistake to suppose that Onions succeed better year after year, on the same ground, and although they do sometimes yield well in succession, this is owing to the high manuring and fine pulverization given to other previous crops. Many years cultivation on the same spot may not impoverish the land, if well manured, but the Onions will be more likely to suffer injury from maggots and smut. The latter never attacks the crop on fresh ground.

Potatoes, Carrots or Beets, highly manured, are good preparatory crops; one or two Tobacco crops admirably fit the ground, and it has been noticed that after Tobacco, Onions are less liable to be attacked by maggots. Cabbage, more than any other crop, seems to unfit ground for Onions. Alluvial soil washed down from higher ground, is very good.

MANURE.

The most suitable manure is old rotten cow dung, coarser barn-yard or hog-pen manure will answer only if spread and lightly plowed under in the fall. Unless the land has been thoroughly saturated with manure to the full depth of the plow, deep plowing is not advantageous. It brings the poorer soil to the top, and the seeds sown in it will not come up well. Those that do sprout make a sickly growth, and when their roots finally reach the manure, buried deep in the ground, they grow very rapidly, but to no good purpose, as the season for their proper maturing being over, they make "stiff-necks" or "scallions" as they are called. This, late sowing and the selection of poor Onions for seed-raising are the principal causes of failure in Onion growing.

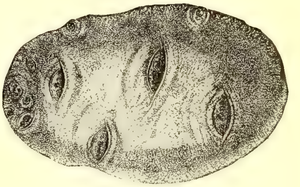
The spring plowing should not be more than four or five inches deep. Peruvian guano, superphosphate of lime or bone dust, at the rate of one thousand bushels to the acre, more or less according to the strength of the soil, should be sown broadcast after the spring plowing and well harrowed in. It is of the greatest importance to break all lumps and leave the surface level and smooth, to accomplish which, it is generally necessary to work the ground with hand-rakes.

SOWING THE SEED.

The land being prepared, stretch a line on one side of the plot and, parallel with it, mark off in drills 14 or 15 inches apart by drawing a marking rake with four or five teeth, back and forth till finished. The best Onion growers now do not roll in the seed. A heavy rain packs the earth after it and it is much harder to break the crust at the first weeding than when covered with a light drag. "Comstocks' Seed Sower" is specially adapted to sowing Onions at the rate of 4, 5 or 6 pounds to the acre, and distributes the seed so evenly that no thinning is required. Six pounds is about the proper quantity for medium sized Onions, for large Onions five pounds are enough. If the ground is infested by maggots allow one pound more. The last week in April or the first week in May is the right time to sow in Wethersfield, but it is always best to sow as early as the ground is dry enough to be put in good order. In favorable weather the seed comes up in about ten days. Wm. G. Comstock.

(*To be continued.*)

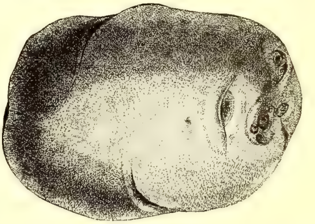
NEW POTATOES.


BROWNELL'S BEST.

The fact that most if not all varieties of Potatoes deteriorate in the course of time seems to be generally accepted. The duration of their prime varies with different kinds; in some it has lasted through a quarter of a century, while with others a few years of usefulness have terminated their existence. In an average varieties do not transmit their best qualities for more than ten years, so that if it were not for the indefatigable labors of enthusiastic hybridizers, dating their experiments back to the days of Rev. Goodrich, our race of Potatoes would have died out ere this.

To those interested in this subject there is a peculiar charm in observing the development of new seedlings, and we have in this way grown on our experimental grounds, during a series of years, many thousands of seedlings, most of them raised by prominent Potato growers.

After a few years' trial but a small number are found worthy of propagation, and are dropped from the list. Those retained are planted again and subjected to further test, so that varieties which have been continued for several years generally present valuable and desirable qualities. Of about fifty varieties on final trial last year, we have selected as the best and most promising: Early Household, Brownell's Best and Vermont Champion. The accompanying illustrations, although much reduced in size, give a good idea of their relative shape and size. To the Vermont Champion a first-class certificate was awarded by the Royal Horticultural Society of England.


EARLY HOUSEHOLD.

The Fruit Garden.

SEASONABLE HINTS.

Strawberries.—The frequent and sudden changes in temperature during the present winter have been extremely unfavorable to the satisfactory wintering of plants not well covered, and on heavy soils many will be found thrown out of the ground, or raised so much that a considerable part of their roots became exposed. As soon as the condition of the ground permits, such plants should be re-set and kept well mulched until danger is over.

From plants growing in hills it is best not to take off the mulch at all, but simply to remove the covering from the crowns of the plants and leave it alongside of the rows until the bearing season is over. The plants should not be uncovered, however, before the leaves begin to grow.

There is nothing gained by planting new beds before the ground is in fit condition, but it is well to make one's plans and selection of varieties before hand, and order the plants, that no unnecessary delay need occur when the proper time has arrived.

Raspberries and Blackberries may still be pruned and the dead canes removed, if not done so before. Full directions were given in previous numbers. These plants start so early that, where new plantations are intended to be made, it is of the utmost importance to plant as early as possible. While Strawberries may, by pinching off all blossoms and buds, be planted as late as the month of May, Raspberries have but a poor chance when planting is delayed beyond their proper season.

Fruit Trees.—Tree planters become more and more convinced that the sooner trees are planted after the ground is in suitable condition the more favorable are the chances for success.

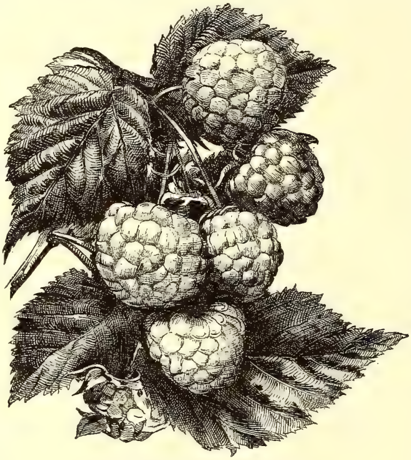
Labels.—The small wooden labels which are attached to trees received from nurseries become illegible in a short time, and drop off altogether in a few years, so that when the trees come into bearing there is generally no trace left to indicate what varieties they are. Hardly anything can be more provoking, in a fruit garden at least, than after having made a careful selection of choice kinds, and having waited a dozen years for their fruits not to be able to find their names. The drawing of a map at the time of planting will obviate such a calamity, unless the map is lost or eaten by mice. The surest and most enduring way to preserve the names of trees is to mark them with

Zinc Labels.—A common strip of sheet tin written upon with a lead-pencil is better than wood, but for neat appearance and endurance the labels which are made for the purpose and are sold for a small price are preferable. They are tied loosely to a branch of the tree with a copper wire, and last a life-time.

Indelible Ink for writing on these labels is made by mixing two drachms of verdigris and sal ammonia each, 1 drachm of lampblack and 4 oz. water well together in a mortar. The solution must be kept in a glass stoppered vial and has to be well shaken up before using. A quill pen has to be used in writing with it.

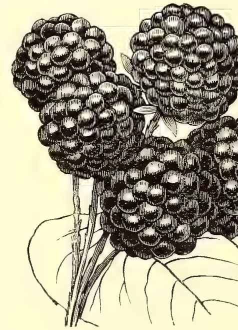
THE MONTCLAIR RASPBERRY.

This new Raspberry is introduced by its owners and originators, Messrs. E. & J. C. Williams of Montclair, N. J., in a somewhat novel way, for they say right in the beginning of their circular: "We frankly state that we have eaten better berries and have seen handsomer ones." This is so radically at variance with the "best, largest, handsomest, hardiest, most prolific, earliest and latest, etc., that ever was and ever can be" style, that if we were not so fortunate as to have a few plants growing in our experimental grounds, we might have some difficulty to get "at the truth of it."



THE MONTCLAIR RASPBERRY.

From a two years' experience on our own grounds and from what we saw of the Montclair at its original home we consider it a valuable addition to the list of family berries. It is probably a chance seedling of the "Philadelphia" and a decided improvement upon that old well-known variety. In general appearance it bears a strong resemblance to its parent, but in its most prominent characteristics it shows more vigor and hardiness. The canes are upright, very strong and hardy; foliage dark green, vigorous and healthy; berries, as shown in the accompanying illustration, average larger than the Philadelphia, are more conical, finer grained, of a slightly brighter red color and more sprightly flavor. It does not possess the high aroma of the best foreign varieties but would be considered good enough by most people. It is moderately firm, sufficiently so for not very distant markets, and as prolific as any Red Raspberry we know of. On our grounds, the unprotected canes did not suffer the least injury during the last two winters, so that it may be called "hardy." It ripens early and continues a long time in bearing, which habit, combined with its other good qualities, places the Montclair in the front rank of Red Raspberries for the home garden or local market.



THE GREGG RASPBERRY.

The annexed representation of the *Gregg* Black Cap, which is conceded to be the largest black Raspberry in cultivation, illustrates clearly the comparative size of the two varieties.

STRAWBERRIES IN TUBS.

All Strawberry growers, I suppose, have shared with me the experience that weeds *will* grow among the plants for all we can do. I was almost discouraged, until I heard of a novel way of raising Strawberries, and at once concluded to try it myself, as I was struck with the feasibility of the plan.

I procured a large barrel (a hogshead might serve the purpose better but I could not get one at that time), and had holes bored in it about two inches in diameter and six inches apart, over the entire surface except the head, which was removed. After having it placed to my satisfaction, on one end, in a sunny part of the garden, near the kitchen door, I commenced filling with good rich soil, and planted a plant in each hole, adding soil gradually until filled, when I finished by planting a few on the top; and then my barrel presented quite a unique appearance with the plants protruding through the apertures in it. This I did during the last part of the month of September, and the plants grew nicely until the weather became freezing. I then had some corn-fodder tied around the barrel for protection during the winter. I could hardly wait until spring came, I was so anxious to see the result of my experiment, but when at last my plants were uncovered I found them in a flourishing condition, needing no attention but an occasional watering which was supplied by the waste water from the kitchen.

The principal advantage derived from this plan is that while the roots of weeds and White Clover were twining amongst the roots of the plants on the bed in the garden and could only be removed by using the fingers and thumb as a pincers, those in the barrel stood aloft and "grinned defiance" at the enemies that were trying to choke their more lowly neighbors to death. My barrel contained the Agriculturist and Jucunda varieties, and the yield and quality of fruit were vastly superior to those of the same kind grown on the garden bed. I think spring-planting would be as successful as fall-planting, and would recommend the barrel method to all who wish to cultivate Strawberries with the least trouble.

MISS M. E. GRIMM.

Cuttings of Grapes, Currants, Gooseberries, Quinces and many ornamental shrubs may still be made, but they should not be planted before the ground is dry and mellow. Meanwhile they should be tied in small bundles, labeled and preserved in damp moss in a cellar or out of doors covered with sufficient soil to prevent their becoming dry. Care has to be taken that the lower ends of the cuttings are pressed firmly into the soil.

THE TENT CATERPILLAR.

It is impossible to express in figures the damage that is done yearly by insects in the orchard and garden, and much more so when all the branches of agriculture are taken into consideration. As with the eradication of weeds, so also, in the destruction of noxious insects much, and in some cases, nearly everything depends upon the promptness with which the work is done. A single week's delay in weeding may make all the difference between a fine crop of Turnips and few weeds, and a small return of Turnips and a fine crop of weeds and weed seeds. Even less than a week may be sufficient to change the rich, vigorous, healthful green of an orchard into the burned and desolate color which trees stripped of their early summer foliage possess.

Therefore to be forewarned is to be forearmed in this important warfare against the insect foes, and with this advantage in mind, the following remarks and suggestions are set down.

The Tent Caterpillar (*Clisiocampa Americana*) is one of the common destructive pests of the orchard, and is sure to come at just the time when it can do the most injury.

A few words as to the nature of the pest are warranted before the important matter of the remedies is discussed. The perfect insect is a pretty, brown moth with two light bands upon the front wings. It makes its appearance in June and July, and if the window is open will very likely pay a visit to the evening lamp if it chances to pass within sight of the light. The fact that it is thus attracted naturally suggests a method of trapping this pest. After a short time the female moth deposits her 300 or 400 eggs in a compact cluster or band around the small twigs and covers them with a sort of glue or varnish which makes them impervious to water. These eggs remain in this condition until the next spring, when they hatch out about the time the leaves of the Cherry and Apple trees are unfolding. The young "worms" begin at once to weave a conspicuous web of fine cottony substance, in which they dwell at night and when not foraging. These caterpillars are about two inches long when full grown, and variously striped with yellow, black, blue and white, and more or less covered with long hairs. If left undisturbed, a single nest will strip a large portion of a tree of its foliage, after which the caterpillars seek some hiding place where they enclose themselves in cocoons, and in about two weeks come out as moths, thus completing the cycle of development.

REMEDIES.

If possible, the most effective method of killing weeds is to do it when they are in the seeds. So with noxious insects, to destroy them in the egg, if they can be conveniently found in that state, is certainly advisable. With the case in hand it is not at all difficult to find the eggs, as they are made somewhat conspicuous by being placed in clusters and coated with a glistening substance, which readily catches the eye of one who is on the lookout for them. The first remedy is therefore to remove all egg-clusters that can be found. It is best to cut off the twig with the cluster and burn it, which means the destruction of three or four hundred "worms" that would otherwise develop in early spring. This work of collecting the bands of eggs may be done at any time during the winter, thus economizing the time that ought to be given to it if the task is left until the busy days of spring.

Some clusters are missed by the best of hunters, and their presence will be made evident by the appearance of the tents in the trees. At this time the "nests" are easily seen and quickly destroyed before any damage is done. A quick way is to crush the nest of young caterpillars with the hand; but if it is out of reach, or there is any delicacy in the matter, a pole with a torch may be used or the worms can be killed by an application of strong soap suds, weak ley, or petroleum, by means of a swab. The point that cannot be too strongly insisted upon is the doing of this work so soon as the tents begin to form. The "worms" eat voraciously, and if left to themselves quickly strip the trees.

Wild Cherry trees are favorite resorts for the tent caterpillar, and a few of these trees near an Apple orchard may serve as a "shield" or "catch all," in which case the "worms" should be destroyed with as much vigilance as when no such means of protection is employed. The larvæ or "worms" of the tent caterpillar have their natural enemies in the shape of other insects which prey upon it, but how far these diminish the pest is not known. The catching of the insect in its perfect or moth state by means of lamp traps has already been suggested. The shortest, quickest and best method of destruction is generally conceded that of the eggs, or soon after hatching, before injury has been done.

Dr. Byron D. Halsted.

GARDEN APPLES.

"Pruning, are you?" Yes, sir!

"Well, this mild weather indicates the approach of spring and I have called to ask your further advice as to the Apples for my garden. Wife and I have canvassed the subject in the light of the hint you gave me when I called before, and we conclude there is some force in your suggestion to plant early sorts."

You must be the judge, after all, but if the case were mine I should plant the early kinds with perhaps a single exception, and for these reasons. Early Apples are generally tender-fleshed, and ripening as they do in warm or hot weather they decay quickly, and the handling they receive at the hands of the grocer or transporter render it almost impossible to procure good samples from the market. On the other hand, Winter Apples are readily obtained in market, the hardness of the fruit and the weather both conducing to their long and safe carriage, and the distant grower can afford to land them at your door at far less than you can afford to grow them, and they are more apt to keep well. For these reasons you can always get a better quality of Winter Apples in the market than you can of summer varieties. Besides, if you grow them yourself you can have Apples in perfection as they mature, and any surplus, with the inferior and decayed ones, will make a wholesome dessert for your horse, cow or chickens, as the case may be.

"Well, what kinds would you recommend?"

Summer Rose is a fine early dessert fruit, smooth, fair and handsome. *Primate* is another most excellent Apple, and should be in every collection. It ripens gradually, and may be used for about six weeks. We had these two kinds in perfection last July. *Early Harvest* is another good sort, but neither so large nor as good as the *Primate*, and little known in this section.

"I have known *Early Harvest* or *Sour Harvest* ever since I was a boy."

Perhaps so, but from my limited acquaintance, I venture to assert that nine out of ten who think they know the *Early Harvest* do not know it at all, and if they were to get a true tree of this kind would be disappointed.

"How so?"

Because what they know as *Sour Harvest* is really the *Primate*. I first grafted it as *Sour Harvest* nearly forty years ago, and never knew the difference till I have been in the fruit business and learned by experience that the *Early Harvest*, though really a *Sour Harvest*, is not what it was supposed to be. You may therefore, set it down as a fact that when you hear a Jersey man speak of *Sour Harvest* Apples he really means the *Primate*.

"Well, I am glad to know this. How about the *Red Astrachan?* You have not mentioned this."

No, sir; for the reason that I consider those named better. The *Astrachan* is very acid, bears in clusters of three or four, very liable to rot before it ripens, and more subject to the attack of the apple worm or codling moth than the others. I know people's tastes differ; some would place it in the front rank, but for me I should prefer the *Duchess of Oldenburg* as a cooking Apple, as it grows large, smooth and fair. Then there is the noble *Fall Pippin*, a universal favorite for cooking or dessert, though not a great bearer. The *Gravenstein* is also a most desirable variety for all purposes for a Fall Apple, and cannot fail to please. I might name more, but you can get a succession from these, and if you want a winter variety select *Baldwin*, *Peck's Pleasant*, *Rhode Island Greening*, or for late keeping *Roxbury Russet*, and for a greater variety than the number of trees will allow, increase by grafting in the tops. When they reach maturity one tree will afford an ample supply of two or three varieties. By this means you can have as great a variety as you desire, and be independent of the markets save for your winter supply.

"Thank you, I will endeavor to profit from your suggestions. Good day."

E. Williams.

THE APRICOT.

Although the Apricot is one of the most delicious of stone fruits, and ripens earlier than the Peach, it is a scarce fruit in our markets, and is rarely seen on the dessert table. This may be accounted for as follows: First, the tree is easily excited to growth in spring, and a week or two of mild weather will start the flower buds, which are afterwards destroyed by cold or frosty weather. This is a very common occurrence north, and even south, of the Potomac, and may be measurably modified by planting on the north side of buildings or groves of trees, so as to retard the starting of the buds, and shield them from the morning sun after a cold night. Then, when the fruit is set, a second trouble is encountered in the attacks of the curculio, which punctures the fruit of the Apricot with a regularity similar to that with which it addresses the Plum. Unless measures are taken to check the ravages of this insect the crop will certainly be destroyed, and probably the most decidedly effectual method of checking its progress and propagation is that of planting the trees in an enclosure where poultry and hogs are allowed to run at large, the animals destroying the grubs as they occur in the fallen fruit. The third and greatest drawback to Apricot culture is the liability to blight, for which no effectual remedy has yet been discovered.—*William Saunders, before the American Pomological Society.*

The Flower Garden.

A LEAF FROM THE CALENDAR.

BY WILLIAM M. BRIGGS.

Where Wood-Violets love to grow
Thickly lies the winter snow;
Where the streamlet sung and danced,
And the summer sunbeam glanced
Thro' the meadow, down the dale,
All is hushed, and chill, and pale!

Where the Crow-foot's tender green
Earliest in the spring is seen;
Where the Checkerberries hide
By the pale Arbutus' side,
And the Cowslips, tipped with gold,
Over hill and dale unfold;

Where the ferret, soft and brown,
Stores his nest with pilfered down;
And the field-mouse in the heather
Sleeps for days and weeks together;
And the squirrel, wise and dumb,
Waits for better days to come;

Lies the winter—bitter, strong—
Heaped thro' freezing nights and long;
While the tempest comes and goes,
Sliding swift o'er drifted snows;
Clouds above and gloom below;
Tell me—when will winter go?

When the buds begin to swell;
When the streams leap thro' the dell;
When the swallows dip and fly,
Wheeling, circling, thro' the sky;
When the Violet bids the Rose
Waken from its long repose;

When the gnats in sunshine dance;
When the long, bright hours advance;
When the robin by the door
Sings as ne'er he sang before;
Then, when heart, and flower, and wing
Leap and laugh—then comes the spring!

—*Scribner's.*

SEASONABLE HINTS.

Soil.—It is hopeless to expect success with flowers without suitable soil. Most of our cultivated flowering plants have very fine roots which cannot draw sufficient nourishment from coarse, raw ground, and even the choicest varieties and the best of seeds cannot come to perfection without the nutriment upon which their lives depend.

When the soil is dry, light and mellow, spading under of a good coat of decomposed manure annually is all that is necessary, but when the surface soil is thin and the subsoil heavy and retentive, it is best to remove the heavy soil altogether to a depth of two feet and replace with a compost of leaf mould, decayed manure and sand. This should be done as early as possible and the bed worked over several times before setting out the plants or sowing the seeds.

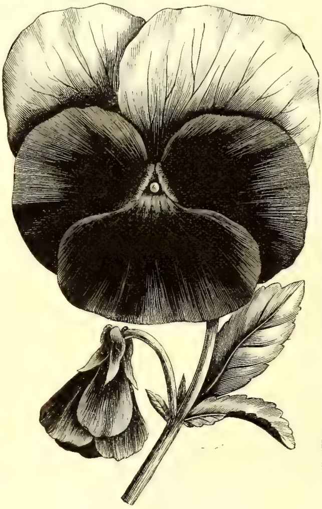
Lilies should be planted as soon as the ground can be worked. The bulbs start so early that, if planting is delayed, the development of the roots cannot keep pace with the growth of the leaves and stem, and these necessarily draw their nourishment from the substance of the bulb itself, thus enfeebling and often starving it altogether. All Lilies except the White Lily, *Lilium candidum*, should be planted not less than six inches deep. Shallow planting is the most frequent cause of failure with Lilies.

Flowering Bulbs, Gladiolus, Cannas, Colocasias etc., stored in the house or cellar should be examined frequently and all decaying matter removed, else the moisture and heat produced by fermentation will start them into premature growth, to the detriment of their future development.

SUCCESS WITH PANSIES.

When I received my premium New German Pansy seed a year ago last September, and looked at the beautiful colored plate in THE AMERICAN GARDEN, I had my doubts about its coming up to the picture; having had considerable experience in growing the English varieties I know what good Pansies are. But now truth compels me to say that the painting is not exaggerated in the least and that I could show plenty of flowers that were larger and finer than any on the plate. They were without exception the best Fancy Pansies I have ever seen, and they were admired by all who saw them.

My mode of treatment consisted in placing an old hot-bed frame in a shady place. Then I mixed well one part of old cow manure and one part of common sand (the washings of the roadside) with two parts of good loam, and filled in the frame, levelling the surface with a layer of the same sifted compost. The seed was then sown thinly, covered about one-third of an inch deep, and pressed down firmly with a board. It sprouted quickly and made a fine growth. As soon as the plants were large enough for handling I pricked them out in another frame filled with the same compost. Here they were left during the winter. They wintered well and in spring I planted them out in rows in a bed which was composed of the same mixture used in the frames. The proper composition of the soil is of great importance, and is, I think, the main point in growing Pansies.



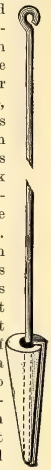
PANSY, LORD BEACONSFIELD.

About the middle of July I cut the tops off and shaded them a little for a few weeks, and all through autumn they were magnificent. Afterwards I took them up and planted them in a hot water pit close to the glass, giving not more heat than was necessary to keep frost out. These I used for making cuttings, and with not more than ordinary care and attention I have not lost one in ten.

When it is desired to propagate a certain exceptionally fine strain of Pansies, the only way to accomplish this is by the use of cuttings as seed cannot always be relied upon to produce flowers exactly like the plant that bore it.

P. E. COPE.

A NEW DEVICE FOR PLANT SUPPORTS.



Little improvement has been thus far made in the way of plant supports, and still a neat support is in many cases very desirable to show a plant off to advantage. Common, shapeless sticks, daubed over with a dash of cheap green, are certainly not pleasant to the eye, and often spoil the appearance of the prettiest specimens of plants, whether grown in pots or in the open air. So of late we find such sticks nicely planed or turned, with a neatly finished top, painted white, red, or even gilded, as we have seen them sometimes in Belgium and Holland. But all these look as stiff and pretentious as the former look coarse and common, and to both we prefer decidedly a natural twig from the forest, or some ordinary reed or cane. But these again harmonize badly with the green of certain plants, such as Gladiolus for instance; and persons anxious to give their flower beds a neat appearance object to the rude contrast of this kind of supports with plants of graceful habit. To supply this want a neat and simple device, which proved to be well adapted for the purpose, suggested itself. It consists, as shown in the accompanying illustration, of a stout galvanized wire, terminated with a small ring at one end, passing the other through an inverted wooden cone, along the outside of which it is then turned up and bent, so as to twist around the upright wire, in order to prevent its slipping. The wire is painted green or brown or not at all, and can be made of any size, for a Dahlia as well as for a little pot plant. For Gladiolus, for which we used this support last summer, the cone was two inches by six, and thirty inches of wire above ground. When the blades were high enough up to require support for the flower stem, the cone was easily inserted by a gentle pressure of either hand or foot, without any danger of injury to the bulb, and as easily removed, without disturbing the soil, after the plant had bloomed. If to this we add that the wire may be bent to suit circumstances, it seems that this device, simple as it is, may be looked upon as a decided improvement and likely to find its way among those who pride themselves on the neat appearance of their grounds. J. ROEMER, LL.D.

TUBEROUS ROOTED BEGONIAS.

These beautiful plants should be more grown in the garden beds and not only as pot plants as they are now almost exclusively cultivated. They may be as easily managed as Geraniums and other bedding plants, and are certainly not less ornamental. For forming groups in partly shaded situations where they can be watered occasionally, nothing is more effective and profusely blooming. In the fall, before frost, they should be taken up and planted in pots or placed close together in boxes. They should then be kept under a sheltered stoop, dried off gradually and, when there is danger of severe frost, brought to the cellar. But little water need be given during winter, and in spring as soon as they show signs of growth they should be removed to a lighter and warmer place.

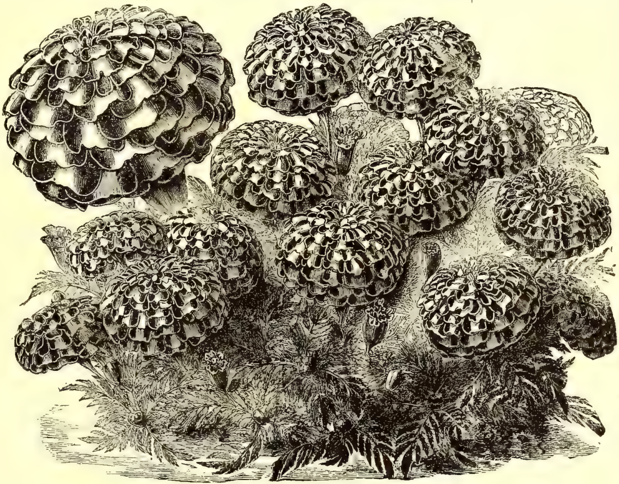
Cuttings made in the fall, or in fact at almost any time, grow readily by placing them in moist sand in a warm room.

For summer blooming, plants kept moderately dry in a cellar become hardier and are preferable to those wintered in a greenhouse or warm room.

EARLY SPRING-BLOOMING PERENNIALS.

No class of plants among recent introductions occupies a more prominent position now than Hardy Perennials. The ease with which they can be grown, the improvement in size of plant and abundance of flowering, as well as their continuance from year to year without the expense of a new stock to be purchased every spring are all qualities which recommend them to the lovers of choice flowers who desire the finest show for the least money.

In planting out Perennials we should as a rule recommend spring unless they can be set early in autumn. Select a warm, dry soil and enrich it well with old manure which has been thoroughly rotted, and early in April, or as soon as the ground can be worked, plow or spade to a depth of eight to twelve inches, and after raking level, set the plants from one to two feet apart according to their height, planting the taller sorts at the back or in the center, and the dwarf varieties in front. The only further care required is to keep free from weeds and the soil light and mellow. A careful division of the more vigorous kinds should be given every three or four years. By a judicious selection of varieties, flowers may be had from early spring until late autumn in constant succession. We can in this article mention only a few of the choicer and more desirable kinds which bloom early in spring.


NEW COMPACT FRENCH GOLD-STRIPED MARIGOLD.

Among the first to bloom are the "Moss Pinks," *Phlox subulata* and its varieties; they grow to a height of three or four inches and are one mass of white and purple flowers for two or three weeks; after flowering, the foliage is of such a pleasing bright green that it makes a desirable edging. *Cerastium Biebersteinii*, *Stellaria Holostea*, and *Achillea tomentosa* are also fine for edgings; the two first have beautiful pure white flowers, and the latter bright golden yellow, and none of them grow to a height of over six inches. Two plants quite commonly used for edgings in England are *Gentiana acaulis*, or "Stemless Gentian," and *Armeria vulgaris* or "English Thrift." The first forms dense tufts or "cushions," covered in May with large vase-like flowers of the most intense blue; the other has short grass-like leaves and forms a neat spreading rosette from which arise in spring numerous small heads of pink and white flowers, which remain a long time. The various species of *Aubrietias* are comparatively new to this country, though they are among the most showy of early spring flowers; they form large masses of pretty evergreen foliage covered in spring with rich purple flowers half an inch in diameter borne on stems four to six inches high. *A. Olympica* and *A. deltoidea* are the best for general cultivation. Of *Hepatica*, or "Liver Leaf," there are several well-marked varieties with single white, red and blue flowers, and with double sorts of the same colors, all very fine and showy, but requiring a cool, half-shaded spot where their roots will not be burned by the hot summer sun. The early flowering Violets are all worthy of a choice spot in the flower garden; first of all *Viola pedata* or "Bird's-foot Violet," with its white and two-colored varieties, the latter rivalling the Pansy even in size and beauty, and all bearing larger and more abundant flowers than in a wild state; *Viola rostrata* or "Beaked Violet," with pale blue flowers and long, slender spurs; *V. Canadensis* with white flowers tinged with pink, and last, *V. cornuta* or "Horned Violet;" this produces pale blue and deep purple flowers which appear all summer and even into autumn, making it one of the most effective plants for the border. *Dicentra spectabilis* is one of the good old-fashioned plants which is found in almost every garden; it lacks one desirable quality, however, its flowers last but a short time and the foliage soon dies away; not so with its near relative, the pretty little *D. eximia*, with its beautiful rose-colored flowers in loose racemes and delicate fern-like foliage, the flowers appearing continually throughout the summer. Of the early flowering Irises there are so many really fine and showy species that we can only mention a few of the most desirable; among them are *Iris cristata*, *I. verna*, *I. pumila*, with its numerous varieties, all free flowering and showy dwarfs. *I. Iberica* with its large curiously colored flowers, *I. Pavonia*, *I. reticulata*, *I. tuberosa*, *I. xiphium*, and *I. xiphioides*, all bulbous sorts of easy cultivation and some of them well suited for forcing. Another showy plant for early spring flowering is *Epimedium alpinum*, or "Alpine Barrenwort," with its pleasing foliage and pretty, curiously shaped purplish and yellow flowers, and *E. macranthum*, with panicles of large white flowers. The perennial species of "Candytuft," or *Iberis*, are very showy white flowering shrubs six to ten inches high, and covered in early spring with an abundance of pure white flowers, which gradually, in some of the species, assume a purplish tinge. *I. Gibraltarica*, *I. sempervirens*, and *I. corifolia* are among the best species, the last being a week or ten days later in coming into flower than the two first species. Another plant seldom seen in our gardens, but one which deserves a prominent place in every choice collection, is *Erica carnea* or "Winter Heath;" it is a dwarf evergreen shrub, a foot or more in height, with racemes of small red flowers which appear in March or early in April, and make most graceful sprays for vases. This shrub is perfectly hardy, and increases rapidly even in a light, sandy soil. In future articles we may give a further list of the rarer, choicer plants which are so well adapted to render home and its surroundings more pleasant, and encourage a love for the beautiful.

George C. Woolson.

MARIGOLDS.

These old free flowering garden favorites, with their large showy flowers, have, until lately, not received the attention which has so lavishly been bestowed upon less worthy subjects of Flora's realm. Their tall and spreading habit did not make them desirable for bedding purposes. Within a few years, however, the Dwarf French Marigolds have been so much improved that they have become valuable and effective plants for borders of larger groups, forming compact and brilliant edgings.

The *New Compact French Gold-striped Marigold* is the latest and best variety. It grows rarely more than six inches high, branching out into compact, dense bushes, or bouquets rather, of about twelve inches in diameter. The flowers are large, mostly regularly striped with chestnut-brown on bright yellow ground, and so profusely studded over the bushes as to hide their foliage. Their hardiness and the ease with which they can be grown will no doubt bring them soon in demand for massive and showy edgings.

Our illustration portrays well its general habit and growth, but even a colored picture could give but a faint idea of the profusion and brilliant effect of its gold-hued flowers. The seeds will grow readily out doors, but the season of flowering may be considerably prolonged by starting them in a hot-bed or in pots in the house and transplanting the plants when they become large enough.

THE USE OF FLOWERS.

The establishment and adornment of our cemeteries is a strong evidence of improved taste. Where formerly only decaying grass, tangled weeds and moss-covered tablets were generally to be seen, may now be witnessed beautiful sites, natural scenery, and embellished lots, that awaken sensations which no language can describe.

The general use of flowers, from the cradle to the grave, affords striking proofs of a high state of civilization and refinement. Within our own recollection, the use of flowers at funerals or in the sanctuary was deemed improper with the sanctity of divine worship.

These have been too often considered as the mere superfluities of life, but the more we are brought into communion with them, the more will our souls be inspired with gratitude to Him who clothes the fields with floral gems scarcely less brilliant than the glittering host above.—*From Hon. Marshall P. Wilder's Memorial Chapter.*

Lawn and Landscape.

SHRUBS AND SHRUBBERIES.

In places of limited extent that do not admit of any attempt at elaborate landscape gardening, a great deal may still be done in that direction by a little care in the proper disposition of shrub planting. It is no uncommon error in planting them, either in groups or belts, to plant too closely, or not to pay sufficient attention to the relative size to which they attain when of mature growth.

In purchasing them from nurseries it is frequently the case that a shrub of the largest growth can only be supplied of a small size by reason of its rarity, or demand, while those of smaller growth, being more plentiful, are supplied at almost the full height to which they attain, and being larger in the first instance, are placed in the background, where they are ultimately smothered by those of larger growth planted in the foreground.

Where a fence has to be hidden, or perhaps a carriage road which convenience renders necessary to be as straight as possible: or an outbuilding to be shut out from view, a single row of tall-growing shrubs hardly answers the purpose. In a few years they grow up, having a mass of leafy tops but below a similar mass of bare stems which not only fail to hide the object intended but present an untidy, unfinished appearance. A triple row planted with care and with regard to their future growth would remedy this evil and give a variety and finish pleasing to the eye.

In the background should be planted the taller growing shrubs, such as: Common Lilacs, Altheas, Halesias, Philadelphus grandiflorus, Viburnum opulus, Weigela rosea, etc. In the second row should be planted Deutzia scabra, Philadelphus coronarius, Persian Lilacs, Forsythias, Hydrangea paniculata, Magnolia purpurea, Spiræa prunifolia, and others of similar size, while the front row would consist of Spiræa Reevesii, single and double, S. Douglasii, S. callosa, Clethras, Daphne mezereum, Azalea obtusa and deciduous varieties known as Ghent Azaleas, Deutzia gracilis and all the low-growing shrubs.

In planting, the common rule is to plant four feet apart in each direction. This rule, however, may be modified somewhat by allowing a greater distance between the plants forming the back row. As a rule it is not desirable to plant evergreens with deciduous shrubs as the first delight in a free circulation of air around them, and, being smothered by the latter, soon lose their leaves and have a bare, scraggy look in the winter season when the leaves have fallen off the surrounding deciduous shrubs.

In places of a still more limited extent where belts of shrubs are inadmissible, the same care in planting groups with reference to future growth should be exercised, and when the space only allows a limited number of shrubs, a few well grown and attended to properly, will give more satisfaction than a greater number uncared for.

It is rather a difficult matter to recommend some particular shrubs in preference to others, as varying tastes differ widely in such matters. For a choice selection the following may be recommended: Deutzias, double white and double pink, Viburnum plicatum, Hydrangea paniculata grandiflora, Exorchordum grandiflorum, Spiræa Reevesii flo. pl. Weigela rosea and vars., Deutzia gracilis, Spiræa callosa, Magnolia stellata and Persian Lilac (red and white vars.), Pyrus japonica and some varieties of Ghent Azaleas. Out of the excellent lists published by prominent nurserymen it is indeed difficult to confine one's self to a few, but the above named are among the best when but a few are wanted. Newer species and varieties are yearly introduced and some of late introduction are not named owing to the high price they command and the improbability of procuring them of sufficient size for immediate effect. * * *

TRANSPLANTING NATIVE SHRUBS.

Native shrubs may be transplanted in the early spring, as soon as the ground will permit, or if not convenient at this season, the plants should be marked and set out in the fall. In the latter case they are apt to suffer less, and make a better growth during the following season. Where the planting is done in autumn marking becomes necessary from the fact that when the leaves have fallen the bushes look so much alike that only an experienced botanist can distinguish the different species.

To designate the shrubs we wish to transplant, a wooden label, painted white, may be tied to a main branch of the bush with a piece of wire,—string being apt to rot off. A number written upon the label corresponding to one in a memoranda in which the time of inflorescence, color and exact location of the shrub are noticed. Thus the position can again be readily found, and the plant placed in its new home. The best time for marking shrubs we wish to move is when they are in flower, as we can then form a better idea of their symmetry and beauty. In making the selection, young plants only should be chosen and such growing in open places or on the skirts or borders of woodlands, these, being more hardened to the strong sunlight, will not be affected by the change of position as much as those growing in the deep shade of forests, which will not bear removal at all.

The difficulty of transplanting large, full grown shrubs in the ordinary manner is so great, that it is but seldom attempted. Yet we find sometimes an exceedingly beautiful specimen of Rhododendron, Azalea, Kalmia and other native evergreen shrubs for which we would willingly pay a large sum if we could have it removed, as it stands, to our grounds, and would do a great amount of work to accomplish our object. Every lover of plants and natural beauty has, we are sure, just such a shrub in his mind, which he has longingly desired to see placed in a certain shady corner of his lawn.

To accomplish this object some patience, work, and a year or two of time are necessary. In early spring as soon as frost is out of the ground, dig a ditch around the selected bush about one foot from the stem and more in case of very large specimens. Expose all the roots, without disturbing the inner soil, then cut every root with a sharp knife, the larger ones with a saw, close to the ball, and fill the ditch again with loose soil. During summer these severed roots will throw out a great number of small fibrous roots, and in the following spring the shrub may be removed with safety, if care is taken to preserve all the young roots. With large specimens and when many large roots have to be cut, it is necessary to defer transplanting two years. C. R. HEXAMER.

ROCKERIES.

A correspondent, tired of the "stereotyped shrubbery," asks for some advice as regards the formation of rockeries, which we give, but without much hope that it will be serviceable; for among the many strange perversities of the human mind there is nothing more sad than the turn it takes when directed to the formation of a rockery. It is generally constructed in such a way that the plants can neither be seen upon it nor grown upon it. Perhaps the difficulty arises from the fact that so few people really notice what they see in countries where the rock crops out naturally, and where what are called alpine plants grow. A vague notion has been instilled into their minds that the right thing is to form a hybrid between a bank and wall of scoria, burnt bricks, or any rubbish which they can get hold of. When the material is better the same idea is faithfully carried out; there is no evidence that anybody remembers the fact that alpine flowers, like other flowers, grow in the grass or in the level soil, in the great majority of cases, and that comparatively few of them care for a dusty hole between two stones in a lowland country. Frequently the rockwork is made without any space for soil, or, if there be soil below, probably there are dry interstices which prevent the roots getting to the soil; but in the Alps we find alpine flowers growing on the level ground by thousands, and on this level ground they get many months of snow and many rains in spring; but where there may be no snow, but on the contrary very often a drying time in winter and autumn as well as in summer, the surface exposed to all sorts of vicissitudes, people act as if the plants could live on air and dust. When the masses of artificial cement work are made, the pockets, as they are called, at the sides are far too small, and as the edges project the plants are often starved.

The conclusion from all this is that we ought to make fewer rockeries, and make them with about one-sixth of the material that is generally used, and dispose of that material in a wholly different way. The rock or stone should crop out of banks or masses of suitable soil, more rock being supposed to be hidden. This, at all events, is the best way for the beginner, who is likely to make a mistake; this also is the true way for allowing plant beauty to be seen, inasmuch as so grown plants can be seen in little colonies or carpets of each, and their bright colors enjoyed; whereas, stuck in holes between masses of petrified rubbish or stone, the plants cannot be seen. Five or six stones of mossy or worn millstone grit, or any other suitable stone, half buried in a mound of earth, make a far better rockery to begin with than many a pretentious affair, costing much money and time in its formation. Our advice to those who love plants, but are without good stone easily obtainable in their neighborhood, and have not some idea, from their own observation, of rocks or alpine flowers in nature, would be to do very little, or nothing at all, in this way. Every plant they want of the character usually placed on these structures can be grown as well on the level ground or on a raised border where the soil is favorable—that is to say, free or sandy. An immense number of kinds can be grown on stiff soils.

In making artificial landscapes, and all that sort of work, people forget the real beauty which may be obtained on the level ground by a sufficient number of beautiful trees and other living objects.—*London Garden.*

The Window Garden
AND GREENHOUSE.

AZALEAS, CAMELLIAS, DAPHNES.

Among the large list of beautiful house plants none are more prized and stand in higher favor than the above-named genera. Although with proper management and some care no class or classes of plants grow and flower easier under cultivation, amateurs meet often with disappointments and failure, and abandon their cultivation, supposing some hidden mystery to be connected with their successful culture.

Proper soil is of the first importance, and it is hopeless to expect success without this indispensable requisite. As a basis there is nothing better than thoroughly-decayed leaf mould, such as is found in woods under Maples, Beeches or Oaks, if in a flaky condition with parts of leaves still visible all the better. To two parts of this add one part of loamy soil from an old pasture or fence row immediately below the sod, where the substrata are *free from lime*, and one part of sharp sand from a pit, fresh-water beach or road-washings, and mix all thoroughly together.

Once a year the plants should be repotted and the soil renewed. The present month is a favorable season for transplanting. Use only clean pots and not bigger than two sizes larger than those from which the plants are removed. Place a large piece of potsherd, with the concave side downwards over the hole in the bottom, and then fill the pot about one-third with smaller pieces. Cover these lightly with moss, then place the plant in the middle of the pot, so that the top of the soil is from one-half to one inch below the rim, fill around the ball and pack very firmly with the hand, or better with a blunt piece of wood. When finished, water thoroughly and place in a partially shaded position for a few days. Afterwards give water only when the soil appears dry, and then sufficiently to wet the whole.

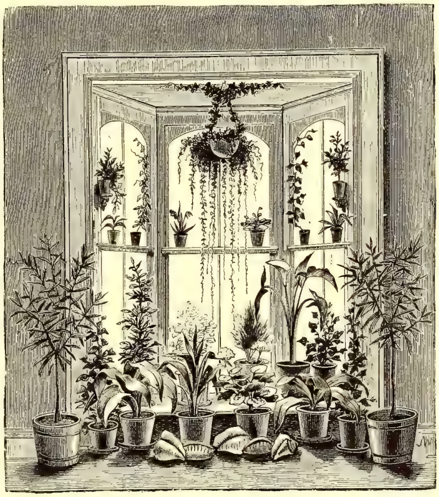
When plants are in an unhealthy condition, or when it is not desirable to use larger pots, the old exhausted soil can easily be washed away from the roots and the plants replaced with fresh soil in the same or even smaller pots.

Towards the first of April in the South, and the second week in May north of New York the plants should be placed out of doors in a partially shaded position, with a northerly or northeasterly aspect, if possible. The pots should be plunged in the ground up to the rims, after having previously dug holes a few inches deeper and larger than the pots, and filling them with coal ashes or coarse sand to prevent worms from burrowing among the roots. In dry weather sprinkle the foliage frequently and be careful to keep the entire soil moist at all times. The cause of nearly all the complaints about Camellia buds dropping off in winter and Azaleas refusing to expand their flowers can be traced to this omission and the fact that the plants have been frequently dry during the previous summer.

In the fall when nights become chilly the plants must be removed to shelter, but not where they are subjected to a dry or higher temperature than 55 degrees, and for the first six weeks a temperature of 45 degrees would be even preferable, after which they will bear a somewhat higher temperature.

Insects, especially red spiders and scale insects, become sometimes troublesome to these plants. The spiders are minute little animals which lodge generally on the under side of the leaves, causing them, if not checked, to turn gray and afterwards yellow. An occasional washing with strong soap water and frequent syringings with cold water will cure and prevent their ravages. The scale insects are more troublesome, as they stick firmly to the stem and have to be removed by force with a small stick, or better with a tooth brush and good, strong, warm soap suds, repeating the operation from time to time until clean. The mealy bugs, which look like a film of white cotton, may also become troublesome. They can be removed with a feather and kept off by frequent washings and syringings.

After the plants have become established and the pots filled with roots some stimulating fertilizer may be given. As such nothing is safer and better than a solution of one ounce of peruvian guano in three gallons of water, applied once or twice a week. But fertilizers should not be used immediately after potting, or at the removal to winter quarters.



A WINDOW GARDEN.

By studying the conditions of the plants and following carefully the directions here given no one need apprehend failure with either Azaleas, Camellias or Daphnes. JOHN THORPE.

WHAT PLANTS TO GROW IN THE HOUSE.

Most amateur florists undertake too much. They would like a large collection and they want choice kinds like those they see in conservatories belonging to wealthy people.

After several years of experience I have come to the conclusion that we have but a comparatively small list of plants which it is advisable for the amateur to select from for ordinary window culture. As he or she gains experience and becomes familiar with the requirements of the plants under his or her care, it will do to "branch out." Plants which they would have failed with at the beginning, they may succeed with later. It is better in this, as in most other undertakings, to go slowly. Learn how to take care of a few less particular plants before you undertake to care for some which require more careful treatment.

Let us suppose that you have but one window in which to grow plants; you want flowering kinds for the most part, and you cannot have more than a dozen in all unless your window is a large one, for it is far more satisfactory to have a few plants with room for development than a large number crowded together until all individuality is lost in a confused mass of foliage. Shall I select for you? Well, my first choice is the

GERANIUM,

because it is one of the most easily cared for plants that we have, and it is one of the most free flowering, and its foliage is always bright and vigorous. There are other plants that I prefer to the Geranium, but under the supposed circumstances none that I would unhesitatingly recommend. It is sure to do well if not shamefully neglected. It is the flower for the million. The particular varieties I would leave you to select for yourself. I think I would first choose a scarlet. The variety called "Herald of Spring" is my favorite among the scarlets. But there are dozens of others which you might consider equally as fine, possibly finer; and where there are so many to select from it is not of much use to name one particular variety. I would select the Single Geraniums for winter culture because the double varieties do not bloom freely beyond November. To my mind the single ones are handsomest. If you want a pink variety, one that is almost always in bloom, you can do no better than take "Master Christine." It is a beautiful, soft rose color, marked white, and blooms profusely. You can suit your taste about color, for we have Geraniums in all shades of scarlet and crimson, pink, salmon, magenta and white. The "nosegay" or Dwarf Geraniums are better for small collections than larger growers, for, while the plant is dwarfish, the flowers are as large and profuse as those on the robust kinds. Of course you want a *Rose Geranium*. No collection is complete without it.

HELIOTROPE.

This favorite flower will bloom all through the winter, and though not showy, its fragrance and its modest beauty make it a general favorite. It likes a warm sunny place. You want a

CALLA.

It would be well worth cultivating if it did not bloom, because of its large, fine leaves, borne on stalks from a foot and a half to three feet high, giving the plant a tropical appearance. When we add to the attractive foliage its large, trumpet-shaped white flowers, with their delightful fragrance, we have one of the finest and most desirable plants in the entire list of kinds suitable for house-culture. It requires a large amount of water and the pot should stand in a deep saucer which is never allowed to get empty. Let the water given it be as warm as you can bear on your hand.

For an additional list, I would name *Carnation, Abutilon, Begonia, Chrysanthemum, Cyclamen, Eupatorium, Petunia, Chinese Primrose, Oxalis, Lantana* and for training about the window, *Ivy, Cobea* and *Smilax*.

E. B. REXFORD *in Farm Library.*

Foreign Gardening.

HOW PLANTS BEHAVE IN BRAZIL.

To one who has spent all his life in temperate regions where for many months in the year the earth is sealed up by frost and snow and all floral life is temporarily suspended, a life in the tropics, a region of perpetual verdure, seems almost an entrance to Paradise. Palms waving tall fronds, great trees trailing with flowering vines or masses of bright flowers, with Orchids perched on the branches or clothed with climbing Ferns, the air soft and filled with the fragrance of flowers, and all this in January—a month of cold and storm—do indeed present an enchanting picture, the reality of which it is hard at first to believe. Nor is the charm evanescent; it is renewed day by day, and accustomed as one may become to perpetual summer, he never wearies of it.

When first we came to Brazil our desire was to surround ourselves with flowers. Knowing well that the inhabitants of our hothouses grew in the open air in Para, which is almost under the equator, we brought with us a couple of hundred pots of greenhouse plants, natives of many different tropical countries. Also a good stock of seeds of annuals, thinking they would thrive wonderfully and give a wealth of bloom in a region of heat and moisture. To say we have been disappointed would perhaps be saying too much, but in truth many of our ideas as to the "fitness of things" in the floral world have received a rude shock, and the plants in many cases behave in a manner which astonishes and which has disappointed many fond expectations.

As to annuals, they are, with some few exceptions, a failure. The seed comes up, often in twenty-four hours, and the plants grow with extraordinary rapidity, but they want the sturdy habit which they have in temperate climes. As gardeners say, they "spindle," grow tall and have no side branches or very few. Then they at once come into bloom, sometimes with the more precocious in three weeks, set seed, and as soon as it ripens, which it does very rapidly, they die. Then there is a strong tendency with all double flowers to become single, and this is not only the case with annuals, but also with tubers and woody plants. Balsams and Asters grow rapidly, give a few scattered or terminal flowers, and in a few weeks from the time of planting their life is over. Zinnias, on the contrary, grow rampantly, but even the best "double" seed gives only single flowers.

Ten-Weeks Stock forms a stout, sturdy crown of leaves but refuses to bloom, and this both in pots and in the garden in various situations. Petunias grow very strong but fail to bloom, whether well fed or pot-bound and starved. Mignonette grows but will not bloom. Coreopsis gives a single flower on a tall stalk, and the same is true of many other plants of like growth. Pinching, to make bushy plants, has no effect; if moderately done one side shoot takes the place of the leader, and if practiced severely the plant dies.

Of annual climbers some do very well, others are a failure. Morning Glories give a few flowers, very brilliant in color, from seed, and die in a few weeks, and removing the seed vessels has no effect in prolonging the life of the plant. Cypress Vine grows luxuriantly and the plants are a mass of bloom. There are many wild plants in Brazil belonging to the Morning Glory family which are very beautiful. With some exceptions these are not annuals, but planted from seed they soon form large tuberous roots and endure for years.

One of the most remarkable of these is an Ipomœa with large white flowers, often six inches in diameter, with a pearly star in the center. The seed often germinates in 48 hours and the plants grow rapidly; we have had them covered with flowers in six weeks from the time of planting. It is a night-bloomer, expanding just before sunset and fading after sunrise. The effect of these immense white flowers on the dark foliage is very beautiful, especially by moonlight, and even in the darkest night they seem, as it were, to draw the light to them and stand forth from the darkness, and fill the air with a rich, spicy fragrance. Thunbergias grow rapidly and cover everything near them with leaves and flowers, but only the orange and the straw colored species are found; we have the white, which is quite a wonder to the natives.

All the species of Celosia grow freely and the colors of the foliage are wonderfully fine. Imagine an *Amaranthus tricolor* (Joseph's Coat) twelve feet high and a mass of rich foliage!

But now for tubers; and first the Tuberose, of which only the single variety exists, for the reason that the double deteriorates and never more than once gives double flowers. But the masses of Tuberoses, called here "Angelica," are very fine; great grassy clumps which are seldom out of bloom. Cannas form immense clumps sending up flower-stalks eight to ten feet in height, terminating in spikes of gorgeous bloom. Maderia Vine grows well and trails from the trees festoons heavy with bloom. Dahlias grow and bloom but always have a yellow center. The effect of the climate upon variegated foliage is peculiar. The variegated leaved Tuberose, if grown in a pot, keeps the white marking but in the garden becomes green.

Pandanus Javanicus variegatus and Veitchii, which are so distinct in their colorings in our stove houses show nothing but a glossy green foliage. *Acalyphas* grow rampantly and keep the brilliant coloring only on the margin of the leaf. The variegated Pine-Apple is, if possible, more beautiful than in our stove houses, and *Hoya variegata* (wax plant) grows better. Almost all variegated annuals lose their coloring. but there is no lack of color in our garden. The Crotons are masses of bright yellow and red, the plants of immense size and the Caladiums, which are native here, grow in enormous clumps and are very brilliant; of these we have already collected forty species, two of the most noticeable of which are one with a lustrous coppery leaf (it is *not* a *Colocasia*,) and another with dark green lanceolate leaf, on the back of which grows a second smaller leaf. This latter is not a sport but a well defined species, and is very curious as well as ornamental.

Among trees too, there is such a great diversity of foliage that, even were the Orange tree not bending heavy with golden fruit, and covered at the same time with flowers, always a picture of beauty, the great Breadfruit waving with its deep-cut foliage, and Bananas whose leaves are often as tall as the Orange trees, swaying in the cool breeze, there would be sufficient to attract and please, if only from mere novelty of form. Just now (January) the old Mangoe trees are bright with masses of the pretty Orchid *Rodriguezia secunda*, the flowers varying in shade from deep wine-color to light pink.

But to return to our subject. Almost all plants of the Amaryllis family do well, but the bright and pretty *Vallota purpurea* fails to bloom and *Clivia nobilis* will not grow.

Perhaps our greatest disappointment was with Dutch bulbs. We had a good collection, but all behaved in the same obstinate manner, refusing to grow either roots or shoots although perfectly sound and healthy; they "stood still" for nine months and then rotted away, and this both in pots and in the garden. Thus we have to depend upon memory for Hyacinths, Tulips, Snowdrops, and Narcissus, but their place is more than filled by the many Orchids which grow with so little care and which rival them in rich color and delicious fragrance.

We might multiply almost indefinitely instances of the different nature which plants develop in a temperate and torrid zone, the latter here a strange misnomer, for Brazil is by no means torrid, the weather never being as hot as often in the United States in summer; but enough has been written to give a general idea of those differences and to show that at one time and place we cannot, even under seemingly most favorable conditions, have flowers of every kind. E. S. RAND, JR.

JAPANESE GARDENS.

The love of flowers, shrubs and trees is widely spread in Japan; even in the busy commercial quarters of the large towns almost every house has its garden spot with its tiny dwarf shrubs. These dwarf shrubs and trees probably owe their origin to the narrow limits of space, and their production is carried on to such a ridiculous degree that a Dutch merchant was shown a box three inches deep, and with a square inch of surface, in which a Bamboo, a Fir and a Plum tree, the latter in full bloom, were growing and thriving. The price asked for this botanical curiosity was about $300. The method of dwarfing is by checking the circulation of the sap, cramping the extension of the branches, chilling the roots in flat, porous pots, which are kept constantly cold and wet. Many dwarf plants have striped or variegated leaves, and the production of such varieties, both dwarfed and in the natural size, is a favorite hobby with Japanese gardeners. In the portions of the garden immediately surrounding the house, no tree or shrub is allowed to retain its natural size, but within one sees fans, ships in full sail, round tables, candelabra, large crescents and stiff, rectangular walls. A soft, velvet-like turf covers the ground, and the clean gravel paths are bordered with gay stones, dwarf trees and flower vases. From the ponds, in which gold fish swim, and from the artificial rivulets, rise mossy little rocks, to which tiny bridges of every conceivable shape lead. Such spots require too much care and attention to admit of wide extention, and so they generally occupy but a comparatively small space in front of the mansion. High, pruned hedges inclose these green boudoirs, where nature is disguised and curled as conventional culture and the usage of "good society" demand. Without these lies the larger part of the garden, where nature is left more to herself. Japanese gardens look most beautiful toward the end of autumn, when the foliage of the Maple assumes a bright purple hue, and the Azaleas and Wax trees are clothed in dark purple tints. About this time, too, the Winter Chrysanthemum is in bloom; it is the favorite flower of the Japanese, who possess countless varieties of it. The size and splendor of its star-like flowers are often incredible.—J. DOUGLAS, *in Gardeners' Chronicle.*

BOOKS AND PAMPHLETS RECEIVED.

The American Poultry and Pigeon Breeders' Directory published by Edward O. Lord. Great Falls, N. H. The book is so arranged that any one desiring a particular variety of fowl can turn to it and find the address of persons breeding that variety.

Proceedings of the Portage Co., O., Horticultural Society.—H. Y. Beebe, president; Andrew Willson, secretary.—A pamphlet of 82 pages, containing, in addition to matters of local interest, several well written papers of value to horticulturists generally.

The Scientific American.—A file of this excellent journal before us, recalls to mind its fortunate escape from the great fire of the "World Building." The subscription lists, account books, patent records, drawings and correspondence were preserved in massive fire-proof safes. The printing was done in another building; consequently the types, plates, presses, papers, etc., were unharmed, and no interruption of business was occasioned. The new Scientific American offices are located at 261 Broadway, corner of Warren street, within a few hundred feet from the ruins of their old time-honored location.

The Ohio State University.—The eleventh annual report of the Board of Trustees.—A clear and concise statement of the work done and the advancement made during the past year. The vigor with which this University takes hold of the practical and scientific workings of the farm, and endeavors to elevate "the chief calling of man," is well worthy of emulation by her elder sisters. The State of Ohio has always been one of the foremost in promoting our national prosperity, and she is not backward now in doing her part in the progressive march of modern agriculture. In addition to the existing professorship of Agriculture held by Dr. N. S. Townsend, an eminent and practical agriculturist, a chair of Botany and Horticulture has been created, to which Prof. W. R. Lazenby, of Cornell University, was called. Prof. Lazenby is a man of sound practical experience and thorough scientific training. The energetic and earnest manner in which he went at once to work in organizing his department may well serve as an indication of what he will accomplish if he is allowed to carry out his plans.

Farm Architecture; Houses and Barnes, by E. C. Gardner. Published by Clark W. Bryan & Co., Holyoke, Mass.—A neat little pamphlet of fifty pages, gotten up in the usual faultless typography, of the *Paper World* Press. The author starts with the assertion that our farm-buildings are pitifully below their present possibilities, and demonstrates how to give a fresh impulse, an upward and onward lift toward changing this. The subject is divided into two classes: 1st, the improvement of the houses and barns already built, and 2d, the construction of those which are to be built—the old and the new. The first especially, is treated with much ability and thorough familiarity of the practical bearings of the subject. Many illustrations are given to show how with little expense the external appearance of an old house and the comfort within can be improved many fold. The suggestions for the internal arrangements of new houses are thoroughly sensible, and to the point, and it is said with much truth that, our houses should be built to live in; not for show, not for company, not for fashion; for our home-life does depend to a wonderful extent upon the character and plan of the house we live in.

Note sur Deux Societes D'Horticulture aux Etats-Unis, by Ch. Joly, Paris.—A carefully written and instructive essay on the history and advancement of American Horticultural Societies, especially the Massachusetts Horticultural Society, the work and usefulness of which is related in most glowing terms, and the American Nurserymen's Association, which the author considers as a mark of national prosperity and an example for European imitation. A brief review of other prominent societies and the work accomplished by them is also given. Carefully collected statistics show the extent of our exports of apples, pears and other fruits, and especially wine. The quantities of wine shipped to France are increasing annually, helping her materially to supply the deficiency caused by the destruction of her vineyards. We have it here stated by the best informed authority, that the large quantities of our wines exported to France are re-shipped under foreign brands to satisfy the minds of those who consider only imported wines fit to drink.

The entire essay is a high and gratifying tribute to American horticultural progress and American horticulturists laboring for the advancement of the important industries resulting from them.

The Small Fruit Culturist, by Andrew S. Fuller, new, re-written and enlarged edition, published by the Orange Judd Company, New York.—Every fruit-grower will hail with joy this new edition of the "Small Fruit Culturist," brought up to the state of fruit culture of the present time, and feel grateful to the author as well as to the publishers. When some fifteen years ago the work first appeared, and Mr. Fuller traced with prophetic eye the possibilities and probabilities in small fruit culture, many thought his conceptions visionary and their fulfillment impossible, yet to-day we find them more than realized. The positive knowledge of small fruit culture was formerly in an extremely crude and vague state. Mr. Fuller gathered, sifted, and systematized the material on hand and, combined with the results of his extensive experience and research, presented it to the world. The accuracy and comprehensiveness of the work took every one by surprise, and as a book coming from America it is a phenomenon, as is shown by the fact that it was the first American work on similar subjects ever translated in a foreign language. As a hand-book of small fruit culture as well as a book of reference, it stands unexcelled to this day, and is equally indispensable to the professional fruit-grower as well as to the amateur.

The Horticulture of Boston and Vicinity, by Hon. Marshall P. Wilder.—A private edition of the chapter prepared for the Boston Memorial Series. —This beautiful pamphlet comes to our table with more than ordinary claims to our attention, as might be supposed of anything written by the honored and beloved president of the American Pomological Society, but the value of the copy before us is infinitely enhanced by the friendly words and signature of the author, written with his own hand, clear and firm, at the venerable age of 83 years, 4 months, 22 days. The task of preparing this memorial paper could not have been entrusted to abler and worthier hands, for no living man has done so much to promote the horticultural interest of our country, and has like him devoted a long and exemplary life to the elevation of pomology and floriculture. In his usual, beautiful and elegant language, the author gives as accurate and complete a history of the horticultural development in and around Boston as the space permits. Commencing with the landing of the pilgrims who "found Grapes, Strawberries, Gooseberries, Raspberries, Plums and Roses, white, red and damask, single, but very sweet," following step by step every marked improvement up to the present day. The many beautiful gardens and country seats which surround Boston are so vividly and charmingly portrayed that in reading the descriptions one feels almost like walking on the smooth, velvety lawns, and inhaling the perfume of the seas of flowers.

ANSWERS TO CORRESPONDENTS.

Book on Sheep.—*R. A. H., Naples, Me.*—Stewart's Shepherd's Manual is considered one of the best, if not the best book on Sheep. Will be mailed from this office for $1.50.

Book on Small Fruits.—*W. D., Cohoes, N. Y.*—A. S. Fuller's Small Fruit Culturist is the best work of the kind, and will repay any one cultivating fruits many times its cost. It will be mailed from this office for $1.50.

Charles Barnard's Simple Flower Garden for Country Homes; How to Start it; What it will Cost; How to Stock it and have Flowers the year round—*A. D. S., Grafton, N. B.*—This book was published in Boston some twelve years ago. We do not know who the publishers are; perhaps some reader will answer.

Celeriac, or Turnip-Rooted Celery.—*L. H. Hazlet, N. J.*—Celeriac is but a variety of the ordinary Celery, in which through numerous generations the development of the roots has been promoted. By earthing up, the leaves and stalks would develop more, but to the detriment of the root, which is the part used.

Jasmine.—*Miss M. J. F., Claverack, N. Y.*—Your Jasmine seems to be sick, indeed, and may be beyond recovery. Try the treatment advised for Azaleas and Camellias on another page of this number. Wash out the roots and plant in a comparatively small pot at first. If the plant recovers this summer, expose to full sunlight during another season.

Onion Sets.—*Mrs. R. S., Raccoon, West Va.*—Sets are small Onions grown from late sown seed. If the sets are planted early they will make large Onions in a short time, when they should be taken up and dried, else they will go to seed. For information about growing Onions from seed, see Mr. Comstock's excellent article in this and next number.

Manure for Kale.—*Th. E. S., Washington, D. C.*—Kale is not used before freezing weather sets in and develops its curly leaves, which are the part eaten, during autumn. It is set out about the time when late Cabbages are planted and requires, like these, rich ground. Mapes' Complete Manure, or Cabbage Manure, used as a top-dressing, will be found beneficial.

Sweet Clover Shrub.—*L. H. N., St. Louis, Mo.*—The shrub mentioned is probably "Sweet Gale," or "Wax Myrtle," *Myrica cerifera*, its leaves are oblong-lanceolate, narrow at the base, glossy, and of pleasant fragrance. It grows wild near the sea shore, and is also often found cultivated in gardens. The foliage is used extensively by florists to mix with flowers in bouquets. The true *Sweet Clover* is *Melilotus alba*, this is not a shrub, however, but a plant which dies down every year.

Muriate of Potash.—*J. L., Kortright, N. Y.*—This salt is so strong that unless it is very evenly distributed there is danger of its injuring the crops. Whether it is to be used as a top-dressing of meadows or on plowed land it is always safer and more advantageous to mix it thoroughly with four or five times its weight of dry muck or soil, previous to application. All potash salts should be applied as early in the season as possible, that the spring rains may diffuse them through the soil. Three to four hundred pounds should be used per acre.

Primulas, Cinerarias, Calceolarias.—*Mrs. W. A. C., Charleston, S. C.*—*Primulas*, Chinese Primroses, can be propagated by division of the roots or by cuttings, but better plants are obtained from seed. To produce good, strong plants for next winter blooming, the seed should be sown in March or April. *Cinerarias* and *Calceolarias* are sown in August and September in finely sifted loamy soil mixed with about one-third of fine sand. As soon as the young plants can be handled they have to be pricked out in richer soil and afterwards potted in soil containing about one-third of well-decayed manure.

Bean Weevil.—*Subscriber, Canton, O.*—This pest is rapidly spreading over the whole country, and is doing an immense amount of damage. The full grown insect is a small beetle which deposits its eggs upon the young Bean pods. The young larva as soon as hatched works through the pod into the Beans, from the substance of which it subsists. Here it transforms into a pupa, which develops into a beetle the following spring, or earlier, when the Beans are kept in a warm place. The most effectual remedy, or better, prevention, would be for all inhabitants of a large area to sow only sound Beans. This would not be an easy matter, however. Scalding the Beans before sowing kills the larvæ without injuring the seed; turpentine put in the barrels or other tight vessels in which the Beans are kept, is also recommended for destroying the insects.

Honey Plants.—*L. L., Belle Vernon, O.*—White Clover, Buckwheat, Rape and Alsike, are recognized as the most valuable honey plants for cultivation on a large scale, and it is stated by bee keepers that the honey furnished by these plants pays for all expenses of cultivation. The Spider plant, *Cleome pungens*, and Figwort, *Scrophularia nodosa*, a tall rank growing herb, with small greenish purple flowers, growing wild in woods and damp places, are also highly recommended. Among garden flowers Mignonette stands at the head of the list, at least bees appear to be very fond of it, and "Mignonette Honey" is quoted in the market lists at a higher price than any other. Why not try "Wild Garden Seeds?" Among such a variety of flowers, surely even the most fastidious bees will find something agreeable to their taste.

CATALOGUES RECEIVED.

H. S. Anderson, *Union Springs, Cayuga County, N. Y.*—Descriptive Catalogue and Price List of the Cayuga Lake Nurseries. Duchess Grape a specialty.

Ellwanger & Barry, *Rochester, N. Y.*—Mount Hope Nurseries, Abridged Catalogue of Select Fruit and Ornamental Trees, Grape Vines, Small Fruits, Shrubs, Roses, etc. The best of everything a specialty.

Green's Nurseries, *Rochester or Clifton, N. Y.*—Catalogue and Instructor. Shaffer's Colossal and Lost Rubies Raspberries, specialties.

V. H. Hallock, Son & Thorpe, *Queens, N. Y.*—Catalogue of Lilies, Gladiolus, Roses, and a general assortment of Greenhouse Plants.

J. T. Lovett, *Little Silver, N. J.*—Monmouth Nursery Catalogue and Descriptive Price List of Small Fruits, and Fruit Trees. Manchester Strawberry and Souhegan Raspberry, specialties.

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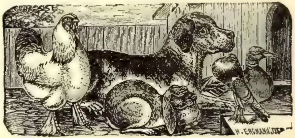

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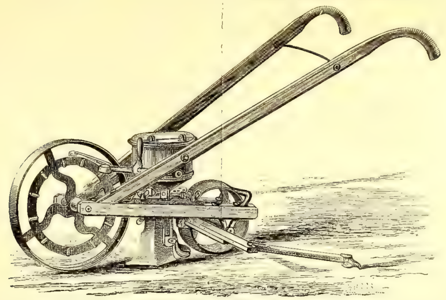

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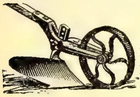

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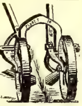

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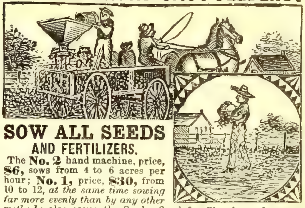

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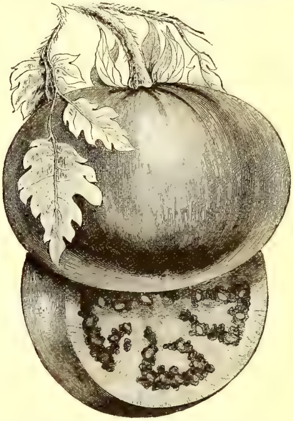

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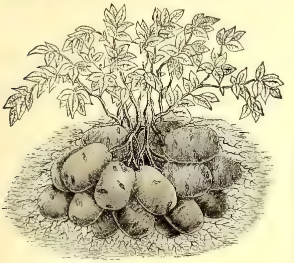

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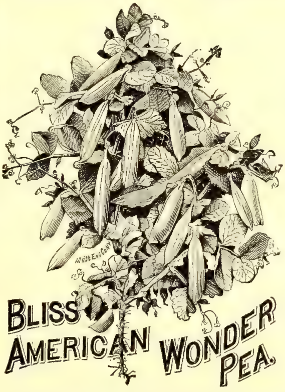
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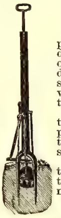

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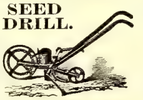

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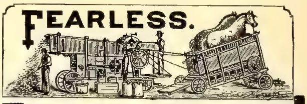

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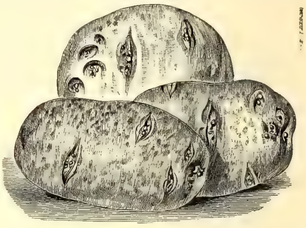

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Varieties of 1881.

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QUEEN OF THE VALLEY,
AMERICAN GIANT.

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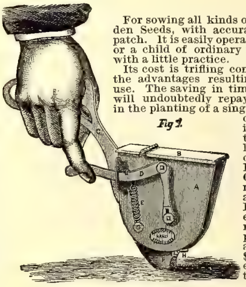

Fig 2.

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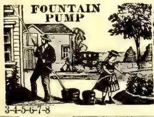

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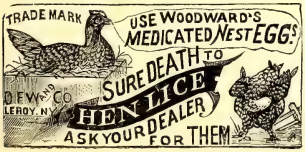
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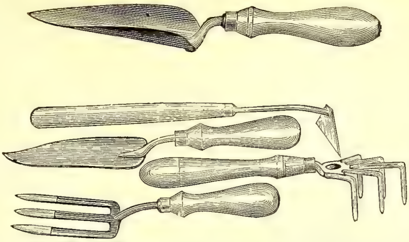

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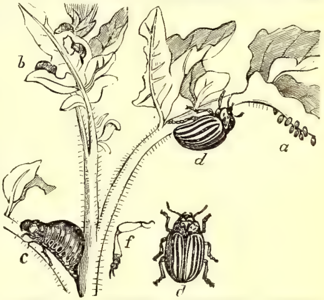

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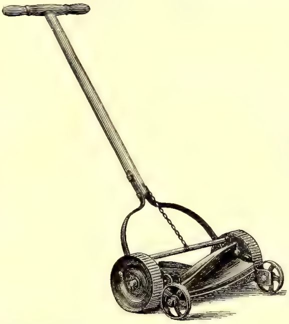

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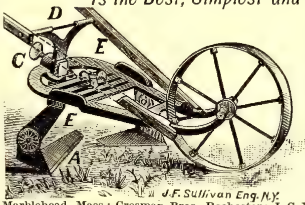

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Potatoes.

1,600 Bushels of POTATOES on 6 ACRES—Season 1881, on "Vassar College" Farm. Potato Crop in neighborhood a failure.

Mr. BENSON VAN VLIET, Genl. Supt. "Vassar College," Jan. 30, 1882, writes:—

"We have used your Manures principally on Potatoes, generally on old used-up meadow land. Last year the potato crop was a failure all about us, but we secured a large crop; the **Largest in the county,** having secured over **1,600 bushels of excellent variety and quality** from 6 acres of land, which serves us a good turn, as we have to-day sold 100 bushels at $1.30, and have 700 bushels left over for our own use. Part of the result I attribute to having planted at the right time, but the largest share of credit belongs to the Manure for strengthening and nourishing the plants through the *great drouth which caused so many failures all about us.*

"It has never in previous years been thought *possible to raise Potatoes on the College Farm,* but I think we can raise almost anything by using proper enriching substances and plenty of it." (Mr. Van Vliet used 20 bags of the Mapes Potato Manure on crop of 1881.)

Top Dressing Grass.

Early Spring application of two bags per acre of "The Mapes Grass and Grain Spring Top Dressing" brought two tons per acre "first-class hay." More than doubled the crop. Four bags of the Mapes Corn Manure alongside of forty loads Stable Manure.

SAMUEL CADWELL, Glastonbury, Hartford, Co., Conn., November 30th, 1881, writes: "I applied *(early last spring)* the Mapes Grass and Grain Top Dressing, 400 lbs. per acre, on a piece of old grass land (heavy soil) which had been in grass 12 years without manure, and harvested at the rate of 2 *tons per acre of first-class hay.* The Mapes Top Dressing *more than doubled* my crop of hay, and was of much better quality than from the other part of the field where nothing was applied. I am satisfied it paid me well. I also used the Mapes Potato Manure alone, on heavy soil (clay sub-soil), 400 lbs. per acre in the hills, distributed and covered slightly with earth before dropping the potatoes. The yield was 120 bushels of salable potatoes per acre, besides the small ones and a few that rotted; quality, fair and smooth. I also used the Mapes Corn Manure, 800 lbs. per acre, broadcast, alone, alongside of 40 loads per acre of stable manure, with results about equal."

Top Dressing Grass.

One bag per acre of "The Mapes Grass and Grain Spring Top Dressing" caused a new growth of timothy and clover, but no weeds, while the barn-yard manure made a growth of weeds, sorrel, and such like. Preference of cattle for portion of pasture fertilized with the top-dressing.

SAMUEL H. WISNER, Warwick, Orange Co., N. Y., Jan. 5th, 1882, writes to Finch & Colwell: "The half-ton Mapes's Top Dressing Fertilizer, I purchased of you last April, which I used on grass has given me entire satisfaction. I used only 200 pounds per acre, and received this last season double the yield from the portion of the field I used it on that I did on the other portion of the same field that I fertilized with barn-yard manure. It yielded also on the portion I used the Mapes Top Dressing, *three times this season* what it did last year, where I fertilized with *barn-yard manure only.* Where I used the barn-yard manure the growth of *weeds, sorrel, and such like* was very profuse, on the contrary, where I used the Mapes Top Dressing, there was a new growth of timothy and clover, *and no weeds, sorrel, or anything of that kind.* I also discovered that when I turned my cattle in the field they would eat the pasture first from that portion fertilized with the Top Dressing—eating it all up and leaving entirely untouched the other portion of the same field that was fertilized with barn-yard manure, till they had eaten the other up, and then did not eat the latter all up. The first season they will not eat pasture fertilized with barn-yard manure, which is well known by all farmers, but this they eat as soon as they get to it."

Top Dressing Grass.

W. S. & H. E. SAVAGE, East Berlin, Conn., July 19, 1881, reports: "On low meadow, too low for cultivation without draining, we applied in August, 1880, with grass seed, 2 bags of the Mapes Complete Manure, the yield from the natural soil without fertilizer was about 1 ton of hay per acre, where the "A" Brand is used we judge it to be 2 tons per acre."

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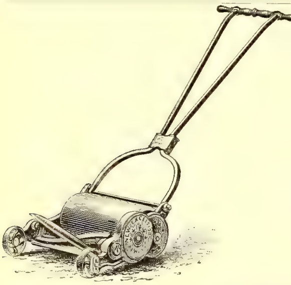

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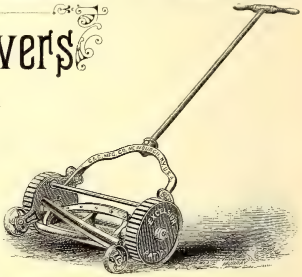

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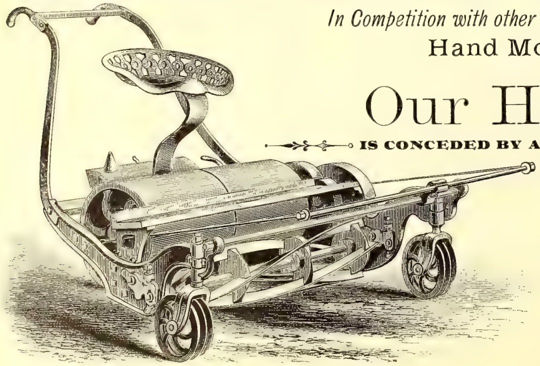

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Vol. III. NEW YORK, APRIL, 1882. No. 4.

The American Garden.

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Short, concise articles on horticultural matters, and reports of practical experiments and experiences in the garden, will be thankfully received and appropriately acknowledged.

MARKET GARDENING AS A BUSINESS.

"Can a middle-aged man with a small family and a few thousand dollars ready money make his living by market gardening near a large city?"

This question is the essence of a letter before us, and in fact of many similar ones which have come to our office. If the question is to be answered with "Yes or no" we do say "yes," but it depends—partly on the man, his early training, his inclinations, habits and capabilities, partly on the location he choses and its market facilities, partly on his health, and partly on his wife, her assent and concurrence.

Our correspondent is probably a city clerk, and it seems strange that it should not occur to a man of business training that gardening for a livelihood, for profit is a *business*, which, like any other business, has to be learned and thoroughly understood before one can expect to succeed. But in addition to this, the change from selling dry-goods or hardware to gardening or farming is not merely a shifting from one kind of business to another. It means a change from city to country, a change of habits, customs and associations, and of relinquishing much that has unknowingly become almost a part of ourselves, for an uncertain future which although it may loom up bright and promising, may seem enchanting only through its distance.

To those who have a natural, in-bred love of country life, nothing can offer a substitute for its pleasures and enjoyments, while to one of opposite inclinations, a similar life would seem short of banishment to a barren island. No one can know how fond he is of country life and work, until he has tried it, as thousands have done before him. Many have failed, but others have succeeded and bless the day on which they changed city dust and heat for the green fields, pure air and the natural and beautiful scenery of the country.

If our correspondent is in real earnest, we would advise him to try; to engage with some intelligent market gardener where he can learn the details of the business, and where he may become familiar with its requirements. After a years thorough apprenticeship he will be competent to answer his question more satisfactorily to himself than any one could do now in a whole volume.

NOTICES OF THE PRESS.

The American Garden, published monthly by Messrs. B. K. Bliss & Sons, New York, at the low rate of one dollar per annum, is worth five times its price to all who cultivate flowers or vegetables.—*Boston Journal.*

The American Garden has been changed into a monthly. We are pleased to notice this evidence of prosperity. Dr. Hexamer makes The Garden helpful and interesting, and worthy the smiles of fortune.—*Green's Fruit Recorder.*

The American Garden, published by B. K. Bliss & Sons, and edited by Dr. F. M. Hexamer, changes with the present issue, from a quarterly to a monthly. It is always fresh and readable, and the oftener it appears the better.—*Centre Democrat.*

The American Garden, heretofore a quarterly, appears with the new year as a monthly in the same form and with the same faultless typography. The change can but be gratifying to readers and profitable to publishers, for the magazine is so good it can't come too often.—*New England Homestead.*

The American Garden is, as usual, full of instructive and interesting matter relating to the planting and cultivation of vegetables, flowers and fruits. This periodical is now in its third year, and the high standard of excellence which it took at the start, is well maintained, if not surpassed, at the present time. No journal devoted to the interests of the garden, is more handsome in general appearance, better printed, or supplied with more practical and timely information than is The American Garden.—*Berkshire Courier.*

The American Garden introduces itself to us in its third volume. We have given it a careful perusal, and find it all it represents itself to be: A monthly illustrated journal, devoted, as its name indicates, to the gardening interests of America. It contains valuable articles under the following heads: The Vegetable Garden; The Fruit Garden; The Flower Garden; Lawn and Landscape; it has a space devoted to books and pamphlets received, answers to correspondence, and also an advertising department We quote "Seasonable Hints" in this department.—*National Baptist.*

Every one of our readers can find a reliable adviser in The American Garden, a beautifully illustrated monthly journal, devoted entirely to horticulture, and designed to fill this want. In its columns of "Seasonable Hints," it tells just what to do each month in every department, and offers in its "Answers to Inquiries" columns to solve all the difficulties that so frequently beset and dishearten the horticulturist. You cannot invest $1 better than to subscribe for this journal. Its publishers are well known as a reliable, enterprising concern, and we can assure our readers full value received in The American Garden.—*New York Witness.*

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The Vegetable Garden.

SEASONABLE HINTS.

As gardens are generally planted the same kinds of vegetables occupy the same ground for many years in succession. Seeds which admit of the earliest sowing are sown on the warmest and driest spot, followed at the second sowing with less hardy varieties and so on, until the whole garden is filled. Thus Early Peas have been growing on the same spot year after year, and Potatoes, Tomatoes, Cucumbers and other vegetables, each in their respective locations. For convenience sake and regularity nothing better could be desired, but for the best yield and quality no worse plan could be devised.

Rotation of Crops is as necessary in the garden as in the field. The different classes or families of plants require different kinds of food, which, although not so varying as with animals, are distinct enough to make it evident that some plants thrive in certain soils, in which others would perish. Abundant manuring will, in a measure, replace some of the elements of plant food taken from the soil by previous crops, but when the same or similar kinds of plants have been growing on the same grounds for a number of years, fertilizers alone can but rarely restore all the elements necessary for this crop and a change, a rotation of crops becomes necessary. The order of planting should therefore be reversed and varied every year, so that only vegetables of distant botanical relationship come to follow each other in the consecutive plantings.

Rotation of Fertilizers is of not less importance. Barnyard manure is the completest of all fertilizers, nevertheless land which has had a plentiful supply of it during a series of years is benefited by an occasional change to potash salts, bone-meal, or superphosphates and vice versa.

Forcing Potatoes.—As the old stock of Potatoes is high priced and will probably be exhausted before the new crop becomes marketable, new Potatoes will, no doubt, be in great demand. Several weeks time may be gained by starting sets in the hotbed or house. An easy and inexpensive method is to take shallow boxes about three inches deep and of convenient size, cover the bottom with about two inches of mellow, rich soil, mixed with sand. On this, place the Potato sets, cut to single eyes, cut side down, so that they do not quite touch each other, scatter some of the same soil or compost over them, and fill the box. Wet with tepid water and put in a warm place, not necessarily a light one at first. When the soil becomes dry give water, and as soon as the sprouts appear above ground, bring the box to a sunny window. In about three weeks from the time of starting, the young plants will be large enough for transplanting to the open ground. To facilitate the separating of the roots, which have grown into a dense mass, the soil should be allowed to become rather dry. The young plants are then carefully taken up, one by one, and transferred into previously dug or plowed furrows, where they are placed about a foot apart and covered with mellow soil pressed firmly around them. The furrows are then filled in and leveled so that only a few green leaves of the sprouts remain visible. A light dressing of decomposed manure along the rows is beneficial, not only as a fertilizer but also as a protection against frost.

PLANT WHITE BEANS.

Those who plant the different varieties of garden Beans, both bush and running sorts, liberally, as they should, since there is no better or cheaper food for summer use, will usually find, at the end of the season that they have a considerable quantity of dry Beans on hand, more than are needed for seed. If these are colored sorts very little use is made of them, not because when cooked they do not taste well, but because they do not look nicely. Of the colored Beans many families never gather any more than enough for seed on this account. Beans are not eaten by any domestic animals except sheep and goats, so there is no use for them in most cases if not desired for the table.

There is one use, indeed, for waste, or damaged Beans, which many gardeners do not think of. They are an excellent fertilizer, well worth a dollar a bushel for that purpose, especially where a rich nitrogenous manure is wanted to use in the hill for Cucumbers or Melons, or broadcast on Onions. I have used a great many bushels of waste Beans in this way. I prefer to have them ground, but they may be prepared as a fertilizer by composting them with loam, shovelling them over occasionally until well rotted. Such a compost, made one-third of Beans and two-thirds of loam, is as strong as good hen manure.

But good Beans are worth more for food than for manure. As those who do not keep sheep or goats cannot utilize them for feeding to stock, they will find it a good plan to grow such as are useful and acceptable, when dry, for the table. This can be accomplished by planting only the white seeded varieties. Nothing is sacrificed in quality by this selection. Among the dwarf sorts the Crystal White Wax, the White Seeded Valentine and the Large White Kidney rank with the first for Snaps (String-Beans), while the last named is one of the best for cooking green, either alone or in succotash. All three of them are first-rate for baking or for porridge. The Crystal White Wax, especially, is in my opinion the best flavored and most easily digested of all Beans used for cooking in the dry state.

Among the Running Beans a similar selection is easily made. The Early Dutch Case-Knife is an excellent Bean for use, green or dry. The Extra-Early Lima, and the Small Lima or "Sewee" Beans, and the Large Lima, where the season is long enough, are all first-rate for every use, green or dry. It will thus be seen that families have no need to plant any kind of Beans that are not useful and desirable for the table under all circumstances. It is quite a convenience, and a desirable item of economy, to be able to gather from the garden not only a summer, but also a winter supply of this, the most nutritious and, to many, one of the most acceptable of garden vegetables.

DR. T. H. HOSKINS.

Hot-Beds require at least as much attention now as when first made. In many cases more loss results from keeping hot-beds too warm than too cold. Air should be given on every warm and sunny day. A good rule to go by is to move the sashes half an hour after the sun strikes them in the morning, and to close them an hour before it leaves them in the evening. The plants should never be watered before the surface of the bed becomes quite dry, and then sufficient water should be given to soak the entire mass of soil.

WATER CRESS.

This peculiar plant has been a justly popular vegetable for hundreds of years, and is probably to-day exactly the same as it was generations ago. Goldsmith refers to it in his immortal "Deserted Village," where he says, in describing

> "The sad historian of the pensive plain,—
> She, wretched matron, forced in age, for bread,
> To strip the brook, with mantling cresses spread."

And so to this day many a farmer, though perhaps not forced by want, gets many a dollar of ready money from some cress-mantled stream flowing through his meadows.

Water Cress, though a native of Europe, has become so thoroughly naturalized here that it is found frequently growing wild along water courses throughout the Eastern States, and it is probably for this reason that it is not more extensively cultivated. Yet near large cities, where there is always considerable demand for it, hardly any crop will yield as much per acre as Water Cress; besides, its quality becomes much improved under cultivation, so that, where once known, the cultivated Cress finds readier sale and commands a higher price in market.

The character of the stream in which they grow also greatly affects the quality. Cresses grown in sluggish streams with muddy bottoms are inferior in color and crispness to those grown in rapid water flowing over a pebbly course.

A few hints as to the manner of planting may be of use to those who cannot obtain it from its natural habitat, or who desire a better article than can be procured from that source. An old stool or clump is broken up into pieces, which are placed in the bed of a stream of from four to eight inches in depth, where they quickly strike root from each joint. Where this depth cannot be had naturally, the stream may be easily modified to obtain it. Deep brooks can be lowered by widening, and shallow ones raised by partial dams,—this is seldom necessary, however, as the resistance of the growing Cress will of itself materially deepen the current. A small stone should be put on each slip to keep it in place, as the current would otherwise wash it away.

Cresses grown in rows are more easily gathered than where they are in patches; they are also generally cleaner, as the current readily carries away any debris which may come down the stream. Where old plants cannot be procured, the seed may be sown along the edge of the water, but a more certain way is to sow the seed where it can conveniently be kept moist without danger of being washed away, and when the plants are large enough transplant in the brook.

Cresses can be grown in common garden soil if regularly watered, but unless all conditions are favorable the fiber will be rather tough and coarse. In gathering the crop it should be cut and not broken off, as the plants will be disturbed less and the product present a much neater appearance.

The principal market season lasts from February until June, and small quantities may be had at almost any time. The best prices are obtained for that which comes earliest in spring. Where the outlet of a warm spring can be deepened and widened and utilized for growing Water Cress, it might, under otherwise favorable conditions, be had all the year round, furnishing many an inviting dish of crisp, bright green Cresses, a desirable and wholesome addition to our mid-winter diet.

C. R. HEXAMER.

ONION CULTURE.

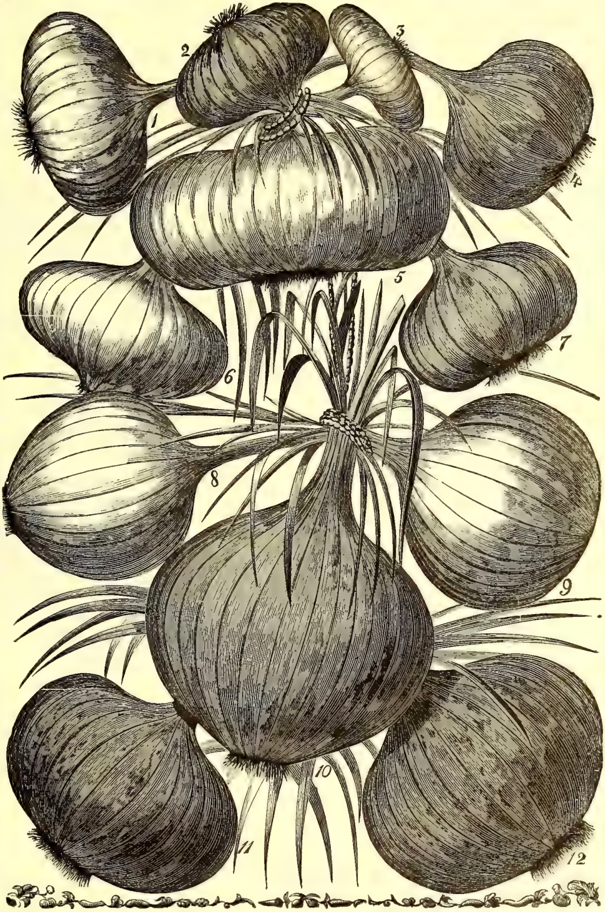
Continued from last Number.

CULTIVATION.

As soon as the young plants can be seen the length of the rows, run Comstock's Onion Weeder through them, adjusted so as not to cover them with earth. When the tops have straightened up and the weeds begin to grow after cultivating close to the rows, rake the ground *diagonally* across the rows with a common hay rake. This will break the crust, check the growth of weeds and give the plants a fine start without injuring at all as might be supposed. It is quickly done and answers for the first weeding. Onions require about three hand weedings, but if pains are taken to make the rows straight and uniform, before sowing, the cultivator and weeder may be run so close that comparatively, but few weeds remain to be taken out by hand, and the ground is kept so mellow and clean by frequent cultivation, that a largely increased yield is obtained. The crop can be gathered with much greater facility in clean ground, and no weeds are left to seed the land the next year.

Early in June, when the leaves are four or five inches high, sow broadcast about a barrel of salt to the acre. After the second weeding give a dressing of 50 to 100 bushels of wood ashes, or 150 pounds German Potash Salts. These may be omitted if the land is rich enough without.

When the tops have fallen, and the moisture is nearly dried out, and the roots begin to shrivel, it is time to gather the crop. This is done by raking four rows together with a wooden rake into windrows, where they may remain a week or ten days to cure. They are then stripped by cutting off the tops about an inch from the bulb, and spread on a dry day, over the floor of an outbuilding, where they have to be turned occasionally till thoroughly cured.



GROUP OF ONIONS SHOWING THEIR PROPORTIONATE SIZE.

KEEPING ONIONS.

To keep Onions through the winter, head them up in barrels and stow them snugly together in an outbuilding or barn, where they can be kept *cool and dry*, and cover with hay or straw to prevent too hard freezing. Light freezing does not hurt them if kept frozen till spring, but alternate freezing and thawing will start them into growth. Too hard freezing kills them, so that when thawed they are soft and worthless. Onions should never be stirred while frozen, but as soon as frost is out and there is no more danger of their being frozen, spread them thinly and give them air in dry weather.

VARIETIES.

Wethersfield Large Red.—(Fig. 11.) Generally speaking, all Red Onions grown in Wethersfield are comprised under this name, with the exception of *Extra Early* and *Red Globe.* Yet there are many different well defined strains among Wethersfield Onions, varying in shape, color and quality. Some growers have by carefully continued selection, for seed purposes, obtained distinct types, superior to the general crops grown there, and nearly, if not fully, equivalent to permanent varieties. It will thus be seen that Onions grown from seed raised by different growers, although true to name, may differ materially. The best of these selections is the *Medium Early Large Red*, the latter, when true, is bright red, of thick shape, very mild, cooks tender, keeps well, is a most excellent cropper, and ripens the tops and bulbs altogether.

Extra Early Red.—(Fig. 2.) Is cultivated only for a first crop, to be gathered and marketed about the end of July. It is of medium size, flat, lighter colored than Large Red, and less productive.

Large Red Globe.—(Fig. 12.) Dark red, nearly round, of good quality, is a good cropper and keeper and but little later than the preceding.

Yellow Dutch.—(Fig. 6.) The common large, flat, straw colored Onion seen in our markets; it is of mild flavor, moderately productive and keeps well.

Yellow Danvers.—(Fig. 4.) Early, very handsome, of brownish straw color, thick, full shape, mild but somewhat tough, which quality makes it keep its shape when cooked; moderately productive.

Yellow Globe Danvers.—(Fig. 8.) Differs from the preceding only in shape, which is fuller and rounder; yields well.

White Portugal.—(Fig. 1.) White, flat, medium size, very mild. A fair cropper but poor keeper.

White Globe.—(Fig. 9.) Very full, round and handsome; yields abundantly, of very mild and pleasant flavor; cooks tender, and would be one of the most desirable varieties if it kept better. Its skin is so tender and it absorbs moisture so readily, that often the bulbs become mouldy before fully ripe. They have to be gathered early, else the sun turns them greenish before housed. In storing them, they have to be spread thinly on a floor and turned often.

Wm. G. Comstock.

The other varieties represented in our illustration are:

Early Cracker.—(Fig. 3.) The earliest yellow variety, of special value where the seasons are short.

Giant Tripoli, (Fig. 5,)
White Naples, (Fig 7,)
Giant Rocca, (Fig. 10,)
The culture of these and other Italian Onions, now becoming of considerable importance for cultivation in our Southern States, was described in our October number of last year.

[It is hardly to be supposed that any of our readers will have been tempted to apply Superphosphate of Lime or bone dust at the rate of one thousand *bushels* per acre, as the types had it in the first part of this article in our March number, yet it may not be amiss to state that it should have been one thousand *pounds*.—Ed.]

American versus English Potatoes.—Notwithstanding the large quantities of Potatoes imported into the United States during the past winter, the demand for American Potatoes in England is steadily increasing, and it is stated that the quality of our poorer kinds becomes improved even on English soil. Unfortunately we cannot retaliate in this tuberous matter. *Prince Albert* was the only English variety that ever proved of any value here, while the many celebrated foreign prize Potatoes which we have grown, deteriorated rapidly on our soil.

The Fruit Garden.

SEASONABLE HINTS.

Any one who has visited some leading nurseries this spring will have noticed more than usual activity, and we are informed that many nursery-men have already more orders on hand than they are able to fill. This may be partly owing to the extreme earliness of the season, and in some degree to the severe drought of last summer, which destroyed many trees and plants which are now replaced, but largely, no doubt, to an increasing interest and taste for Gardening, perceptible throughout the country.

Improved Hardy Varieties, and simplified methods of cultivation have made fruit growing a pleasant pastime compared with the tedious work formerly connected with it. Consequently the demand for fruit bearing plants is constantly increasing, and in the vicinity of many cities, where formerly one or two nurseries could amply supply all demands, a dozen similar establishments are carrying on a profitable business.

What to Plant, is naturally the first question of any one contemplating the setting out of a fruit garden, and the long lists in fruit catalogues do not assist the beginner much in its solution. The fact is that a list of varieties, adapted to all soils, situations and climates can not be given. Such fruits do not exist and never can, under the present conditions and laws which govern the universe; nor are there varieties which are equally gratifying to all tastes. Yet there are some which by experience have been found suited to a large extent of country and which combine hardiness of plants, productiveness and good quality in a higher degree than others, and beginners in fruit culture should confine themselves to such kinds mostly. To furnish a fair supply of fruit for a small family there will be needed:

Strawberries, 300 plants, 100 *Duchess* for early; 100 *Charles Downing*, for medium and 100 *Kentucky*, for late, or, if not satisfactory try *Miner, Cumberland Triumph, Bidwell.*

Raspberries, 1 doz. *Doolittle*, 1 doz. *Mammoth Cluster*, 25 *Turner*, 50 *Cuthbert.*

Blackberries, 50 *Snyder*, 50 *Kittatinny.*

Currants, 25 to 50. For the table, *Versailles* and *White Grape* are best; for Jelly, *Red Dutch.*

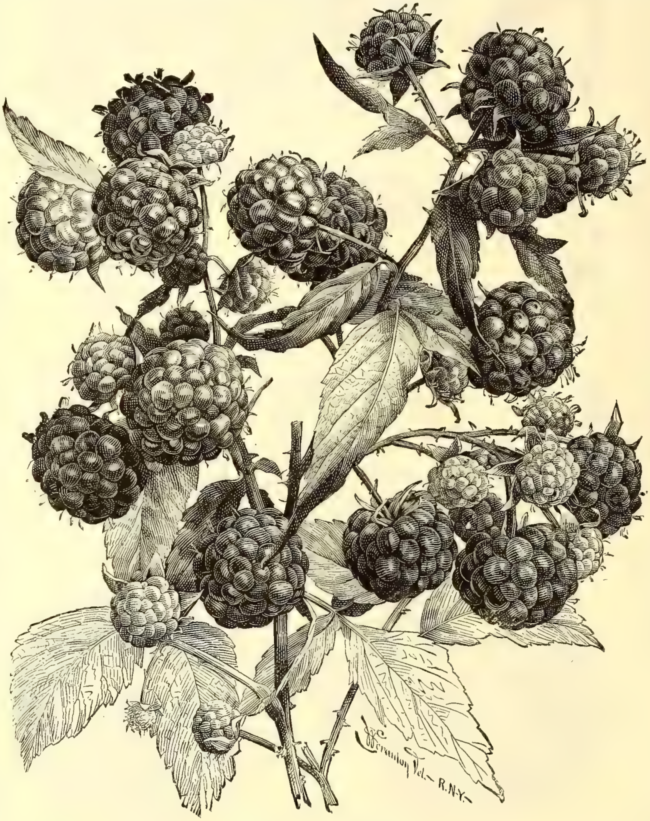
Gooseberries, 25. *Houghton* or *Downing.*

Grapes.—Concord, Brighton, Martha, Delaware, Worden, Lindley, Salem.

SHAFFER'S COLOSSAL RASPBERRY.

We have in our last preceding numbers given illustrations and descriptions of the most promising novelties in Black Cap and Red Raspberries, and present herewith a new variety which belongs to an intermediate class, that of the Purple Canes. These are by some supposed to be hybrids between *Rubus occidentalis* and *R. strigosus*, but sufficient facts to substantiate this hypothesis do not exist, and most botanists consider them only as a sub-species of *R. occidentalis*, Ganargua, Gardiner and New Rochelle are the best known varieties of this class.

Shaffer's Colossal possesses all their characteristic qualities but excels, as we are informed by Mr. Charles A. Green, its introducer, in vigor and hardiness of plants, productiveness, and size of berries. The berries are of dark purplish red color, firm texture and sprightly sub-acid flavor somewhat intermediate between a Black Cap and Red Raspberry. It propagates from tips only.



SHAFFER'S COLOSSAL RASPBERRY.

MARKETING FRUITS.

The subject of marketing fruits is always an interesting theme to those who grow them for sale, for much of the profits depend upon knowing how to prepare and ship them to the market they are designed for. As berries are the first fruit of the season, I will first speak of these.

The most popular basket for Strawberries and Blackberries is the "American quart basket" with the package known as the Delaware 32 quart crate. The slats of this crate are upright, thus giving a view of each layer of baskets in the crate, whereas in the others the lower slat conceals the bottom layer of baskets, so that on the return of empty crates to the dealer, the purchaser could readily conceal from the dealer the fact that the bottom layer was not full of baskets, unless he turned them all out.

There is one important item connected with all crates that is too frequently overlooked, namely, that all the layers of fruit in the crate are bound by the one above it, except the top one, which is supposed to be bound by the lid. But too often this is not the case, and there is so much space just here, that the fruit in the top tier can shake about, if it does not get out of the basket, and, as a rule, the top tier of berries in a crate is by no means a standard of quality for the whole. This is the reason why berries are so often sold for a lower price than they would bring did they arrive in as good order as when they started.

Sometimes dealers take these top tiers off and sell them for what they can get, but as a general thing they have no time to do that. This defect in crates is especially noticeable in those containing the one-third of a quart Raspberry cups, from which, as they are smaller and easier misplaced, the berries can readily jolt out. I have frequently received cases of this tender and delicious fruit in which not less than one-third of the contents of the top tier lay in the bottom of the crate, and all growers of berries know that it is impossible to pick them up and restore them to their place until every cup is taken out of the crate.

Raspberries should never be marketed in cups, or baskets, that contain more than a pint on account of their being so tender.

If a grower questions this point, next season when he is carting his fruit, let him examine his crates on arrival at the depot or dock, compare them with his neighbors fruit marketed in a different style, and see if this statement is not correct. To overcome this difficulty and have the fruit arrive just as the shipper packed it, would well repay the grower for all the efforts he makes in altering his crates. This neglect is a more frequent source of loss and dissatisfaction with sales to the Raspberry growers than any other they have to contend with.

C. W. IDELL.

GRAPE CULTURE IN CALIFORNIA.

Southern California, a region where the sky is cloudless for eight months in the year, where rains occur only during the winter season, and where soil and climate present conditions for the open air culture of the choicest foreign Grapes, unequaled by any other State, offers unsurpassed facilities for the production of wine and raisins. The latter industry especially attracts much attention at the present time.

The cultivation of the vine for raisin purposes differs somewhat from that for wine making. For wine, small, thin skinned, aromatic Grapes are preferred, and the vines may be planted as close as six by six feet, while for raisin making a distance of eight feet each way, and large, thick-fleshed varieties with an abundance of sugar, and few seeds are more desirable, such as Muscat of Alexandria, Muscatel, Seedless Sultana and Gordo Blanco.

In laying out a vineyard, the facilities for irrigation, without which no tillage is possible here, are necessarily of first consideration. The land must be carefully prepared so as to insure an equal flow of water from the distributing ditches all over the cultivated portions. The tract is then thoroughly and deeply plowed, carefully leveled and laid off lengthwise in rows eight feet apart. A wire chain about five hundred feet in length and with links just eight feet long is used for this purpose, it is stretched along the outside line and firmly secured at both ends.

At the connection of each link a cutting from one year old wood, of about fifteen inches in length is then planted. To do this expeditiously two men are necessary, one pushes a spade in the ground to the full length of the blade, and pressing forward makes a wedge-shaped opening into which the second man places a cutting, so that only two buds remain visible above the surface. After removing the spade the earth is crowded back firmly against the cutting, care being taken that the hole is filled completely and that every part of the cutting below ground comes in contact with soil. After the entire row is planted, each man takes his end of the chain and by a dexterous swing deposits it in place for the next rows, parallel with and eight feet from the preceding one, repeating the process till the work is completed. After each days planting a shallow furrow is made on both sides of the rows in which water is allowed to run until the ground becomes thoroughly soaked and settled around the cuttings.

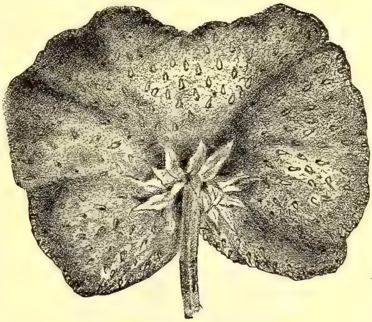
In from six to eight weeks the buds will make a fine start and, if the ground is sufficiently irrigated and cultivated once a month, produce a strong vine the first season.

The following spring missing cuttings have to be replaced and the vines pruned with a view to forming proper supports for future fruiting. The strongest cane selected for the main stem is cut off at fifteen inches from the ground and tied to a stake, all other shoots being removed entirely. Only the two upper buds of the main stem are allowed to grow, those below have to be cut off with a sharp knife, as soon as they start. Cutting is preferable to pulling or rubbing off these buds, as there is less danger of tearing the bark, and when a knife is used the buds start seldom into a second growth, the removal of which causes much extra labor. The stakes are placed about three inches from the vines in such a position that the prevailing winds blow the stem against the stake; care must be taken not to tie the vines so tightly as to impede the free expansion of the stem which grows rapidly during early summer.

The third season's pruning consists in cutting back to about two buds the main branches and other shoots which have been forming around the head and are deemed desirable for the formation of a round, tree-like vine. A well pruned vine should resemble an open umbrella, the frame work being formed of the gracefully spreading branches under which the delicious clusters hang in dense masses, shaded from direct sunlight by its luxurious foliage. All subsequent prunings are made with a view to preserve the shape of this frame-work and the renewal of the old wood with new growth.

Many of the stronger vines present a fair showing of fruit as early as the second year, but a profitable harvest is not counted upon until the third season, while the best results are not obtained before the sixth or eighth year when each vine produces from thirty to forty pounds of grapes. ARLINGTON.

LARGE STRAWBERRIES.



THE PRESIDENT LINCOLN STRAWBERRY.

In speaking of the size of Strawberries a distinction should be made between varieties producing the largest single berries, and those which average the greatest number of large berries. When the object to be obtained is to compete at an exhibition for the largest berry, regardless of other qualities, different varieties will have to be selected than where a large yield or a profitable crop is desired.

The above illustration is a correct, actual sized representation of a *President Lincoln* Strawberry, exhibited last year at the New York Horticultural Society. It measured nearly three inches in diameter, and was of good, full, regular shape. We have seen berries of the *Great American* measuring even more in circumference, but they were irregularly shaped and prongy, and of poor flavor, while President Lincoln is of good quality. For the production of exhibition berries the latter is one of the best.

Sharpless also yields very large single berries, and many of large average size.

THE CANKER WORM.

The New England farmer and fruit grower have long known the Canker Worm as one of our worst insect pests. The people of the West know less of its ravages, but as the years pass by, it may be expected that all parts of our country will suffer from its destructive work.

ITS NATURAL HISTORY.

The female insect is wingless, while the male is provided with four large wings, and is a fine looking moth of more than an inch across. The Canker Worm insects, that is, the perfect state, come from the ground in early spring. The showy males are frequently seen flying in warm winter days. Their favorite food is the leaves of the Apple and other fruit trees, and in cities the "worms" do great damage to the Elm and other shade and ornamental trees. The females, being wingless, are obliged to climb the trunks of the trees, upon which they desire to deposit their eggs. The eggs, which are of very small size, are laid in clusters of a hundred or more. If the insect fails to make the ascent of a tree, she may, as a last resort, deposit the eggs upon a fence or other object.

The "worms" begin to hatch out about the time that the leaves of the Apple trees are unfolding. These "worms" or larvæ, when full grown, are striped with black and yellow and ash color, and average not far from an inch in length. The legs are ten in number, six (three pairs) near the head, and the other four far to the rear. In movement the larva is a measuring worm, that is, it makes a loop of its slender body by bringing the tail near the head, when the head is projected forward the length of the "worm,"—an operation that is so familiar as not to need further explanation. They have also received the name of "drop worms" from the habit of swinging themselves from their support, by means of a fine thread, when in any way disturbed. This habit is not one of the least disagreeable features of the Canker Worm.

The larvæ feed with great voracity, until early summer, when they go to the ground, either by means of the silken thread or the trunk of the tree. They burrow to the depth of a few inches, and form an earthen case or cocoon, when they pass the inactive or pupa state, to come forth perfect, sexual insects.

REMEDIES FOR THE CANKER WORM.

As with most pests, weeds as well as insects, prevention is better than cure. The fact that the females are wingless, and must climb the tree, in order that they may deposit their eggs in a favorable place, permits of a ready and effective preventive. Any barrier that will intercept the insect in her ascent, will prevent much harm being done by the "worms." The simplest method of doing this, is to put some adhesive substance around the trunk of the tree, and so long as this is fresh, the wingless female moths are caught and retained. The old way was to coat a band of paper with printer's ink, and bind it close to the tree. Care must be taken that the band fits at every point, and the ink must be renewed from time to time, so that no dust blown on may make a bridge for the insects to pass over. A number of Canker Worm protectors have been secured by patents. A form that is familiar to the dwellers in eastern cities, consists of a trough of tin, so made as to fasten closely around the tree, and into which the ascending insects can crawl, there to find an oily bath and death. Any work of intercepting the females, should be done before they begin their ascent, which is very early in the spring.

When the moths reach the tree, and the worms hatch and begin their work, something may be done by jarring and collecting them, sweeping the threads with a pole, and burning the larvæ. But the best way is to keep the eggs out of the trees, by cutting off the ascent of the wingless females.

DR. BYRON D. HALSTED.

The Flower Garden.

THE SEED.

That which thou sowest is not quickened, except it die.—1 Cor., xv: 36.

Sink, little seed, in the earth's black mould,
Sink in your grave so wet and so cold,—
There you must lie;
Earth I throw over you,
Darkness must cover you,
Light come not nigh.

What grief you'd tell, if words you could say,—
What grief make known for the loss of the day!
Sadly you'd speak—
"Lie here must I ever?
Will the sunlight never
My dark grave seek?"

Have faith, little seed; sure yet again
Thou'lt rise from the grave, where thou art lain;
Thou'lt be so fair,
With thy green shades so light,
And thy flowers so bright,
Waving in air.

So must we sink in the earth's black mould;
Sink in the grave so wet and so cold;
Here we must stay,
Till at last we shall see
Time turned to eternity,
Darkness to day.

—From the German.

SEASONABLE HINTS.

The commonly accepted supposition that flowers are necessarily expensive luxuries prevents many from attempting to grow flowers whereby they deprive themselves of some of the greatest pleasures of summer if not of the entire year. To the wealthy banker and city merchant who, to comply with the dictates of fashionable society, have to spend at a single dinner or wedding party, hundreds, and thousands sometimes, for choice exotics and floral decorations for the embellishment of their table and parlors, flowers may appear a rather expensive luxury.

Yet we doubt whether all these artistically arranged designs and costly flowers cut to spend their fragrance and to wither under the mid-night gas-light can equal the pleasure often produced by a few packets of flower seeds when sown and tended by solicitous and loving hands. The enjoyment and health which the real lover of flowers derives from his garden can not be equaled by a whole cartload of bought cut flowers, whatever they may have cost.

It is a chief aim of The American Garden to induce those who have not cultivated flowers before, to make the trial and convince themselves how much enjoyment may be had with little expense and labor. It is therefore that we dwell frequently on the subject of flowers which are easily and cheaply obtained.

The Wild Garden, although a comparatively recently introduced style of gardening, is rapidly becoming popular throughout the land, and to those who cannot devote much time and money for their garden nothing can be more desirable. A package of Wild Garden Seeds, which any subscriber to The American Garden may have as a premium, will produce such a variety and profusion of flowers as could not be obtained as easily in any other way.

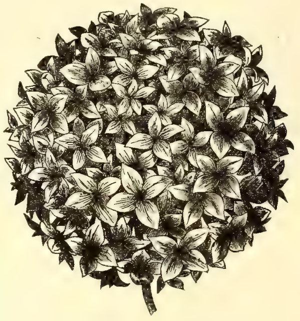
Native Flowers.—In sheltered nooks and on sunny hill-sides many pretty spring plants push forth now their leaves and flowers. Some of these are really as beautiful and attractive as garden plants, and may be as easily cultivated, especially in partly shaded situations, where soil is similar to that in which they grew.

ANNUALS.

Preparing Beds for Them, and the Kinds to Grow.

One of the secrets of success in growing Annuals well, is to have the beds put in proper shape to begin with.

No amount of attention, given later, will make up for what should be done in the outset. We often hear people complaining about failure with the seeds. "They must have been poor," they say, "They did not come up at all." In nine cases out of ten, the fault was in improperly prepared beds, or beds half-prepared. It is useless to sow the minute seeds of plants in beds which are only partially pulverized, and expect many of them to germinate. You cannot make the soil too mellow. In the first place, spade up your garden plat to a depth of at least eighteen inches. Spade it, if possible, on a warm and sunshiny day, and let the blocks of soil feel the effect of air and warmth. The evaporation of unnecessary moisture will be rapid. In a day or two, you can take a hoe and break all these chunks of earth apart, easily. Then use a long-toothed garden-rake to reduce the soil to as fine a condition as possible. It is supposed that whatever manure you have to give your beds, will be spaded in before you are ready to sow your seeds.



GAILLARDIA PICTA LORENZIANA.

I never advise the selection of many kinds of flowers. Better grow a few, and grow them *well*, than attempt growing more than you can do justice to. You will find that the result will be more satisfactory, and the trouble will be less, for a wide range of plants necessitates a variety of treatment, as but few are alike in their requirements. Concentrate your time and labor on those from which you can be quite sure of good results under ordinary circumstances.

If your seeds are sown in the beds, take care not to cover them too deeply. Such seeds as those of the Petunia and Portulaca require but slight covering. I generally take a thin board and press it lightly over the surface of the bed where I am about to sow seed. Then I sprinkle the seed upon the ground, and sift earth over it. After doing this, I use the thin board to press the sifted earth down. In this way I seldom fail of getting about the right amount of covering for the seeds I sow.

If I desire early flowers, I start the plants in pots or boxes in the window. You will find it a good plan, if you start seeds in the house every spring, to prepare soil to fill these pots and boxes in the fall. Put it in the cellar for use when needed. If you do not do this, you will generally find it difficult to get just what you want as early in the spring as you will need it.

In starting plants in the house, you must pay attention to three things, water, air, and warmth. You must be careful not to give enough water and warmth to stimulate a too rapid growth. Most living-rooms are very warm, and there is generally too little air, especially *fresh* air, to enable the plants to grow *healthily*. There is too much of the hot-house temperature about it. Give just enough water to keep the soil moist, and all the fresh air you can. You cannot give too much. Keep the boxes in a sunny window, as far from the stove as possible. In this way, you can raise healthy, robust plants. If you do not exercise due care about watering, and giving fresh air, you will have spindling seedlings, and when you come to set them in the ground, they will suffer so that you will not be likely to have any flowers from them any earlier than you would from seeds sown in open ground. Set the pots or boxes out on the veranda during the warm hours of every day, to accustom the plants to the change from indoor to outdoor. Select a damp, cloudy day for transplanting. If the sun comes out, shade your plants from its effects by sticking up a shingle, or by covering with a piece of paper. Plants set out on the morning of a cloudy day will seldom wilt.

The best Annuals are: Asters, Verbenas, Portulacas, Balsams, Stock, Cockscomb, Phlox, Petunias, Larkspur, Mignonette, Salvias and Zinnias. Of these, it is well to start Balsams, Cockscomb, Salvia and a few Petunias in the house. There is no trouble about growing them well when sown in the beds, but they are very easily managed in the living-room, and if you start them into growth in March, you can have flowers very early in the season.

The Aster is a late-bloomer. The others will bloom nearly the whole season, and give you a great profusion of flowers. All those I have named are easy of cultivation. The Verbena and Portulaca should have beds in the foreground, being low growers. The Salvia and Zinnia are more robust, and should be used as a background. Petunias and Phlox show to better advantage when kept in beds by themselves. The Mignonette may be used as a border. Some kinds of Asters are very dwarf, and these make excellent borders. If you want a very rapidly-growing, large plant for the center of a bed, use the Castor Bean, or *Ricinus*. It has large tropical leaves, and is fine for large beds.

If the season is dry, use the watering-pot daily, and apply enough water to wet,—not merely *moisten*,—the soil. Keep down all weeds, and study the habits of your plants. To succeed well with plants, you want to understand them, the same as you do your children. Eben E. Rexford.

GAILLARDIA PICTA LORENZIANA.

Double Gaillardia.

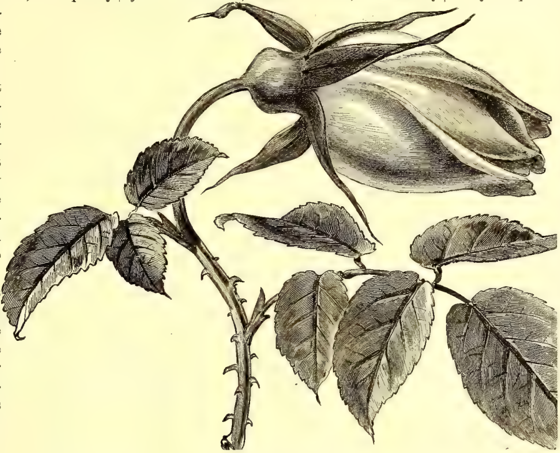
This interesting novelty, although not double, botanically speaking, will probably become popular under the name of Double Gaillardia, which is easier and more expressive than the complicated Latin term.

The flowers vary in many shades of yellow and red, but as plants have not yet bloomed here, we have to rely on the German introducer, who describes it in the following peculiar English: "I am happy to can offer with this Gaillardia a novelty which, after the judgment of authorities in gardening, is one of the most splendid plants which are introduced in last time."

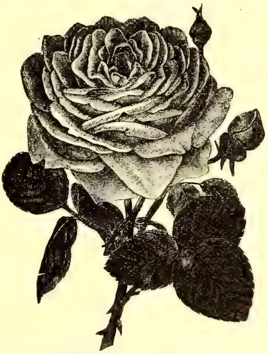
HOW TO GROW ROSES.

The Rose prefers a deep, rich, mellow soil, neither too light, nor yet very heavy. It delights in an abundance of moisture, but dislikes it to remain and become stagnant about the roots. With these few cardinal principles always in view, any one can have fine Roses. The finest specimens we ever saw, were grown in the following manner. As the soil was naturally uncongenial, being a heavy clay, large holes were excavated, and six inches of small stones thrown in the bottom for drainage. Over these were placed tough sods, and the holes filled up with a mixture of thoroughly rotten sods from an old fence row, with plenty of decayed manure, and spent-hops. The surface was in the form of a deep basin, for the purpose of retaining water. After planting, a mulch, not too heavy was applied—sphagnum-moss is unexceptionable—and vegetation soon commenced to show the most astonishing results. Every "wash-day," soap-suds were applied liberally, and an occasional dose of weak, liquid manure, about once in two weeks, was used.

When in bloom, Roses should be watered every day, say in the evening, and at the same time the foliage can be greatly refreshed by sprinkling over the tops. As the formation of seed in any plant, is a drain upon its system, the moment a flower fades, it should be removed. Early spring is the proper season to perform the regular pruning, as there are always injured shoots to be cut away, the result of cold weather; and as it is advisable to keep the plants compact, the tall strong shoots ought to be pruned with almost an unsparing hand. Bear in mind that the young wood invariably starts from the topmost buds, so that if you wish dwarf, compact bushes, cut low at all times. There is no difficulty in obtaining tall plants, (and too often very slim), but it is seldom we observe Roses well branched from the bottom. In forming large beds of Roses, where it is an expensive operation to remove all the earth, dig the soil deeply, in fact trench it at least two "spits" in depth. If clayey, incorporate a liberal amount of coal ashes with it, as well as plenty of manure, short, rotten, and rich. Ground bones answer an excellent purpose also. If very light, dig in plenty of clay broken into small particles. It is a decided mistake to tie up the tops during Winter, with a great mass of straw, "to keep them warm." A few evergreen boughs *to shade* them, will be all sufficient. Hybrid Perpetuals, Mosses, and Prairie Roses need little, if any protection on the tops, but plenty of stable manure about the roots. We have seen good results from cutting back the tender varieties of Teas, Chinas, and Bourbons, to about six inches of the ground, and covering all over with soil, and sometimes with manure. Still, with all our care, the latter classes will continue to be unreliable, but they can now be purchased so cheaply from our leading florists, that they may be treated as bedding plants, and be replaced each year with but little expense. In suggesting a list of varieties, to embrace all the principal colors, it is difficult to please every one, for what true lover of the Rose, has not a pet list of his or her own selection? Still, we suggest only a few that do well we may say, in the majority of instances: *La France*, *Gen. Jacqueminot*, *Alfred Colomb*, *Paul Neyron*, *John Hopper*, *Maurice Bernardin*, *Chas. Lefebvre*, *Baronne Prevost*, *Coquette des Alpes*, *Eugenie Verdier*, *Louis Van Houtte*, *Victor Verdier*, and *Anna de Diesbach*, in Hybrid Perpetuals. *Salet*, *Comtesse de Murinais*, *Princess Adelaide*, *Raphœl*, and *Henri Martin*, among Mosses. *Queen of the Prairies*, *Baltimore Belle*, *Gem of the Prairies*, and *Greville*, for hardy climbers; and as a choice list of Everblooming varieties, embracing both old and new, we name *Hermosa*, *Bon Silene*, *Agrippina*, *Solfaterra*, *Perle des Jardins*, *Appoline*, *Jules Finger*, *Souvenir de la Malmaison*, *Safrano*, *Duchess of Edinburgh*, *Marie Van Houtte*, *Catherine Mermet*, *Lamarque*, *Madame Lambard*, *Marie Guillot*, *Chromatella*, *Letty Coles*, *Devoniensis*, and *Isabella Sprunt*.



TYPE OF TEA ROSE.



HYBRID PERPETUAL ROSE LA FRANCE.

Whether Roses should be grown from cuttings, or by budding on some strong growing stock, as the Manetti, is yet an open question, opinion on the subject being much divided. For general purposes however, when our flower-loving people are not thoroughly acquainted with the nature of wild-roots, we recommend the plants grown from cuttings; notwithstanding, if due care is taken to remove all suckers, the budded plants will grow stronger, and perhaps yield larger and finer blooms than the others. The new system of sending out well ripened young Roses by mail, has done more to disseminate this lovely flower, than all else combined, as hundreds of people all over the country, and especially those residing at a distance from nursery centres, can abundantly testify. The plan however is liable to abuse by unprincipled florists, as a cutting directly from the sand-bed, or when potted but a short time, has not sufficient vitality to withstand a long journey, and removal.

The Rose has a few insect enemies that are easily conquered if taken in time. In all cases endeavor to destroy them, as soon as discovered, as in many cases the baneful effect of their presence is not seen for some time after their appearance. The *Green-fly* or *Aphis* is the most frequent, and the most readily destroyed. Boil a few Tobacco stems in water, so as to form a strong solution, which may be either syringed over the plants infested, or applied with a soft brush. Fumigation with Tobacco-smoke is the best system, provided the plants are in a close apartment, separate from the dwelling. The Rose-caterpillar in the open air, is very destructive some seasons, but if the foliage is dusted with powdered *hellebore*, in the mornings whilst the dew is on, the worms soon leave. A dusting of sulphur will be found efficacious when mildew puts in an appearance, but this disease should be guarded against by not allowing the plants to be exposed to sudden changes of temperature. JOSIAH HOOPES.

DAMAGED LILY BULBS.

In relation to the great difficulties which are found in preserving Lily bulbs in good condition, the experience of *J. Wood* as related in the *London Garden* may be of value to our readers, and his practice worthy of a trial. Mr. Wood says:

"Late last autumn, from 100 bulbs of Lilium auratum I selected thirty as unfit for pot culture, being cankered, mouldy, and otherwise damaged. I placed them on the surface of an inside Peach-house border, and covered them with fine charcoal; in about a fortnight I took them out, when I found them looking much healthier and quite plump; still, I had little faith in them, especially as I had no accommodation for them under glass. Just then, however, a newly formed piece of rockwork was near completion, and there was some good vegetable soil at hand. I therefore had these inferior bulbs placed on a small slope facing the south, and each one covered with half a spadeful of fine charcoal, then all covered to the depth of 9 inches with the above-named soil; twenty-five of them sent up vigorous shoots, and being very rank some were then removed. All but two have from two to seven flower buds, and the stems vary in height from 2 ft. to 4 ft. The late rains checked them, but the more recent fine weather has brought them forward again, and now some are finely in flower. They are protected by a wall from the west winds, otherwise they are fully exposed. Whatever the behaviour of this batch may be another season, I consider myself already repaid."

Lawn and Landscape.

FARM LANDSCAPE GARDENING.

Many of our farm houses are still surrounded by unkempt tangles of suckering shrubs, or by a heterogeneous mass of evergreen and deciduous trees with naked stems and without individuality and beauty, breeding dampness and disease where there should reign sunshine and health.

The great contrast between such surroundings and the tastefully laid-out grounds of the suburban residence with its broad expanse of green lawn, beautifully proportioned evergreens, its gracefully spreading and uncrowded shade trees, and its natural and well cared for groups of choice shrubbery is striking enough to become evident to most intelligent farmers. Yet the disparity between the two appears to the casual observer so wide and the labor and expense necessary to obtain satisfactory results so great, that improvements are seldom attempted. It is true that the care of such a lawn would bring to the working farmer only additional burdens to his already too arduous labors, while to the merchant and city tradesman the time spent in managing his lawn serves as a pleasant and health-giving recreation.

It is obvious therefore, that the farmers door-yard should be planned so that it does not require daily attention. It should consist largely of green sward and trees and shrubs that thrive when surrounded with grass. All those that sucker much and spread by root buds should be avoided. No more drives and walks should be made than are required for daily use. Trees and large shrubs should be grouped at the sides, and the smaller shrubs in the curves of the path, leaving broad open expanses of grass, dotted sparingly with deciduous trees with spreading heads, and here and there a choice evergreen.

To accomplish such results upon a place already crowded and cluttered is somewhat difficult, yet not altogether impossible. To begin with, I would remove all unshapely bushes like June Roses, Wax-berries, the suckering Spireas, etc., and also nearly all evergreens with naked stems. I would then remove all trees so close to the house as to prevent the free entrance of sunlight, and from places where they could best be spared with a view of making open vistas bordered by trees and shrubs reserved for their beauty. In deciding between trees to be reserved, their beauty, rather than their utility should be the guide. A grand old spreading Apple tree which has acquired a certain sturdy and picturesque beauty, on account of its age, is often to be preserved in preference to a young and characterless one even if the fruit of the latter is of better quality. It takes thirty years before a Lilac or Snowball develops its highest beauty, old specimens should not therefore be wantonly sacrificed for the purpose of replacing them with some untried favorite of to-day. Beautiful examples of natural grouping can be seen everywhere in neglected fields and the borders of timber lots, and much can be learned from a study of these that can be made useful in improving grounds.

In removing surplus trees from ornamental grounds they should be grubbed up and the holes carefully leveled and sodded. Sawing them off three feet high and surmounting them with a tin pan or wooden bowl filled with sickly Moneywort is a common custom which surely does not add to the beauty of a lawn. Having removed all objectionable trees, the lawn may be gradually brought to a uniform surface—not necessarily level—by covering the lowest places early each spring with two inches of light, rich soil, through which the grass will readily grow.

Many country houses stand upon a rude bank made from digging the cellar, and left without improvement, save what the stunted grass has produced. Such banks can be transformed into beautiful terraces, with little expense, by leveling them to fifteen or twenty feet around the house and making their margins straight and abrupt and their edges parallel with the house. They may then be ornamented with one or two groups of dwarf evergreens, as the Swedish Juniper, Globe Arbor Vitæ, Yucca, Daphne Cneorum, Dwarf Spruce and Rhododendrons or if deciduous shrubs are preferred the Deutzia gracilis, the Variegated Leaved Weigelia, the Hydrangea quercifolia, H. paniculata, or Tree Peony.

Such improvements need not all be made at one time, or in one year. If one or two defective trees are removed each year and their places filled with something in accordance with a well matured plan, a place can be completely metamorphosed in the course of a few years without additional labor and expense. Such improvements, if judiciously planned and executed with taste, will pay a hundred fold, not only in the increased value of the property, but also in the pleasure of making them and the enjoyment they afford ever afterwards.

L. B. PIERCE.

FORMATION OF LAWNS.

There seems to prevail a popular fallacy, that grass will grow on any ground where the seed is sown, an error which the numerous scanty patches of green, miscalled lawns, obviously disprove. A handsome lawn is not the work of a day, but the result of thoughtful care and persevering labor.

To produce a good sward, it is absolutely necessary that the ground be thoroughly pulverized, mellow and highly fertilized by a bountiful application of well rotted stable manure, or superphosphate composted with it and well worked into the soil. To obtain an even fertility throughout the entire piece of land it is better to prepare the ground in the fall, smoothing out or filling in depressions, and raising the poorer spots up to the general standard, by higher cultivation or extra manuring.

The soil must be of the same density throughout if the lawn after once being established, shall retain its even surface. Veins of a sandy nature, often run through a piece of ground, and unless they are removed and the spaces filled in with other soil, are apt to settle in the spring, making ugly depressions. Or it may be that streaks of heavy clay pass through a lighter loam, which not settling to the same extent as the surrounding ground, produce unsightly ridges. The remedy in either case is to remove this soil and filling in. By careful attention to this point in the beginning, much after labor and disappointment may be spared, and the ground will settle uniformly, leaving the surface smooth and even. After the land has been thoroughly prepared, it should be carefully leveled, graded, and sodded or seeded down as early in the spring as the ground is dry enough to work.

Sodding has the advantage of making a good sward at once, and for small lawns is preferable to seeding, the only objection being the expense, which the advantage of not having to wait two years, as with seeding, goes far to counter-balance. Sods from a closely grazed pasture, if free from weeds, form an excellent sward, and if placed on rich soil will make a fine lawn, after the first clipping. The sods should be of uniform size and thickness, with the edges sharply cut, so that in laying, the pieces fit snugly together. A foot by a foot and a half, are the average dimensions. Where the sward is well matted and tough, as it is apt to be on an old pasture, the sods may be removed in long narrow strips. A board eight inches wide and five feet long is laid on the turf; with a sharp spade cut all around the edge, then turn the board over and cut another strip, and so on, until the requisite number is procured. Sods so cut are easily rolled up and transferred in a cart or barrow to the place where required, and as the edges are sharply severed, they can be closely matched.

The surface of the soil should be loosened with a rake to encourage the downward growth of the roots. After the lawn has been laid, roll with a weighted roller, and if the weather be dry a good sprinkling will be necessary: do not, under any circumstances, pound with a maul, as the sods are greatly disturbed thereby, and it has a tendency to make tufts of grass, which spoil the appearance of the turf.

A lawn laid as here described, and gone over every few days with a lawn mower, will last a life time and always present a smooth, velvety surface.

Where the extended area will not permit of sodding, "seeding down" becomes necessary. In this case the soil should be even more carefully prepared. The seed sown broadcast as evenly as possible, at the rate of four bushels to the acre; two years are generally required to make a well matted turf.

Poa pratensis (Kentucky Blue Grass), *Festuca elatior* (Tall Fescue) *and Agrostis canina* (Rhode Island Bent Grass,) are the best lawn grasses, but to make a more rapidly matted sod, it is advisable to mix White Clover and Red Top with them. These appear earlier and a coarse grass, kept well cut, looks better than a scanty growth of a finer variety. As soon as the grass is a few inches high, go over it with a lawn mower, this will thicken the grass and mat the roots more firmly. Frequent rollings with a heavy roller will stimulate the growth, and in a dry season occasional sprinkling will be necessary.

After a lawn is once fairly established, it should receive, every fall, a light top dressing of fine well rotted stable manure, alternated occasionally with a dusting of superphosphate of lime, bone-meal or guano. Under such treatment the grass will appear fine and green in the early spring, and grow luxuriantly throughout the entire summer.

IKE IVY.

Ornamental Shrubs.—Neglected and unsightly flowering shrubs are seen far too often in yards near dwellings, so that the place would present a better appearance if they were dug up and burnt. Frequently, however, such shrubs may be restored to vigor and beauty by severely cutting back straggling branches and removing all dead wood. At the same time a good coat of stable manure should be spread around them and lightly spaded under.

The Window Garden,

AND GREENHOUSE.

FOLIAGE PLANTS FOR THE HOUSE.

Notwithstanding the prevalence of window gardening, we see few foliage plants grown in the house; and the general idea seems to be that the more brilliant flowers a plant produces the better it is. On the whole, a judicious mixture of the two will be found most satisfactory.

Most of the cool house Palms do very well in the house. *Latania Borbonica* and *Corypha Australis* are two of the best for this purpose. Their handsome shiny green leaves are fresh all the year round, and form an effective background for bright flowering plants. *Areca lutescens Seaforthia elegans,* and several species of *Chamærops* and *Phœnix* (Date Palm) grow well in the house.

These Palms require little care. They need plenty of water, like all thick-rooted plants, but not more than they can take up; so that the earth does not become sodden. About once a week the leaves should be well sponged. If troubled with scale, strong soapsuds should be used for this purpose. Palms do not, as is generally supposed, require a great deal of sun.

The *Dracæna* is another good plant for the house. Its foliage is always graceful and handsome, and it may be grown with little trouble, requiring about the same treatment as Palms. *Dracæna indivisa* is a handsome green-leaved variety; *D. terminalis* has crimson leaves, shaded into maroon. The two varieties mingled together have a fine effect.

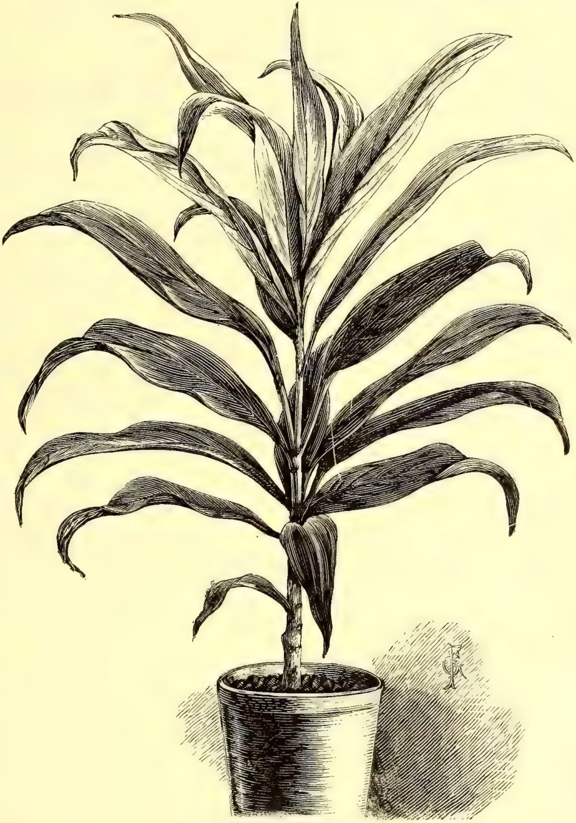
The American Pitcher Plant, or Huntsman's Cup (*Sarracenia purpurea*) grows well in the house, and attracts every one by its oddity. Though it is found in almost all the New Jersey swamps, it is a comparatively unknown plant to many, even to those living in its native place. It grows in a mixture of peat and sphagnum moss, and requires a copious supply of water, being a swamp plant. The pot in which it grows should always stand in a pan containing water. Under this treatment, I have flowered these Sarracenias very successfully in the house.

E. S. Taplin.

Washing Plants.—House plants should have their "wash day" as regularly as our linen, as cleanliness is as important to the well being of plants as it is to our own health. An occasional sprinkling will not benefit them much more than a dirty kitchen towel. They have to be soaked and rubbed until all dust and dirt is removed from their leaves.

GROUPING OF HOUSE PLANTS.

Window gardening, says a correspondent of the *Springfield Republican,* depends as largely for its success upon the selection of plants as upon the knowledge of their special needs, and no window garden is complete without several sorts of variegated plants, which if mingled with the dark green foliage of Geraniums, Fuchsias, Heliotropes and the like will produce the effect of flowers. In a large bracket in the central casement of my mullion window stands a large plant of Achyranthes with its bright crimson leaves veined and ribbed with maroon color against a background of luxuriant Geranium leaves, and when the sun shines fully upon it the effect is more gorgeous than flowers could make it. These variegated plants flourish finely in a high temperature, as they love warmth, and if their leaves are sponged off occasionally with warm water and a little boiling hot water is turned into the saucer of the pot every morning with an occasional watering of warm water upon the top of the soil, they will ask no further attendance at your hands and will be a delight to your eyes. When the spring months come, plenty of cuttings can be taken from them and easily rooted in vials of water or in sand kept well moistened, and a good supply of plants can be prepared for bedding out without doing any injury to the parent plants.



DRACÆNA TERMINALIS.

BEGONIAS

Are indispensable plants for the window gardener, as their leaves are often more beautiful than their flowers, and so very numerous are their varieties and so continuous their flowering, that one could furnish a window with these plants alone, and be sure of having them in flower the year round while they will endure any amount of heat and a good supply of water if the soil is sandy and it is not kept in a sodden condition. Yet they will fully repay careful treatment by a more luxuriant growth of leaves and flowers. There is no variety of Begonia that does not make a desirable window plant, but B. alba nitida and B. rosea nitida are the most constant bloomers that are now cultivated. B. incarnata and B. fuchsioides are also lovely plants with drooping panicles of blush and crimson flowers. Good drainage is essential, and a few bits of charcoal at the bottom of the pot will keep the soil in good condition. A compost of half garden soil and half leaf mold, or peaty soil with a table-spoonful of sand well stirred in will grow very fine plants.

THE CHINESE PRIMROSE,

both double and single varieties, make excellent plants for amateur gardeners as they will flower for months continuously. They require a sunny window like the Begonia to grow in perfection and must not be over-watered or kept too dry, but give them warm water whenever the top soil looks dry. Do not break off the clusters of flowers, but cut off the flowers that are past, and fresh buds will appear. In June when they have ceased to flower cut down the stalks and put the plants in a shady border, but do not let them blossom and pinch out every bud that appears. In October re-pot in a rich, sandy soil and the plants will soon bud again and bloom for another winter if they are well grown.

THE MAHERNIA ODORATA.

is a very attractive little plant, which is not as generally cultivated as its merits demand. It will flower from February to May and its slender stalks are covered with lemon-colored bells that are as fragrant as those of the

LILY OF THE VALLEY,

which most exquisite of flowers can be easily forced to bloom in the house with a little care. Dig a clump of the tubers out of the bed in the garden and place them in a cigar box or any large pot with a small quantity of smoking horse manure at the bottom and sand covered over it to keep it from burning the tubers. Place the box in a warm, dark closet until the green hooded leaves shoot forth, then bring it to the fullest sunshine, and water with warm water, and in a few weeks you will have full spikes of the perfect flowers. Take care to dig the tubers from the bed where the largest roots lie, taking those that would bloom in the spring, then you will not have more leaves than flowers.

Foreign Scenery.

THE WILD FLOWERS OF PARA.

FIRST PAPER.

In a large city or its immediate neighborhood one would not in temperate climates expect to find many wild flowers, but the contrary is the case in the tropics. So prolific is vegetable life that every waste spot is soon a tangle of herbaceous plants and vines, to be followed in the course of a few months by seedling trees, which grow with great rapidity, soon making a wood. If any of the Amazonian cities were to be deserted the spot would in a short time revert to the original forest. It is no uncommon thing to see small trees which from seed have taken root upon the tiled roofs of the houses in Para, and the chinks of any building or wall from which the mortar has fallen, are soon the home of numberless plants. Some of the old walls are thus very picturesque, the summits covered with tall plants and waving grasses, vines and creepers drooping from every available spot, and the old stones coated with moss of various shades of green.

A striking instance of this is before us as we write, the high wall of the Custom House, formerly an old convent, on the opposite side of the little cross street. It was the outer-wall of the old garden, is at the lowest part twenty feet high and rises in battlements at least fifty feet to the high roof to which the vines have climbed, crept along the eaves and sway in long festoons in the cool sea breeze. Leaving our office we pass along this wall, which throws a cool and grateful shade, and turning down the street we reach the large land door of the Custom House. Just opposite is one of the public squares of the city, not large but like all, large and small, a disgrace to Para, covered with coarse grass and which but for an occasional mowing would soon become a jungle. Even here in the heart of the city the botanist can find something of interest, and we can begin to form our bouquet of wild flowers.

First we have a white Eupatorium, rather coarse but not undesirable as the color is good, and it lasts long in good condition in water. Just before us almost obstructing the tortuous footpath that crosses the square, is a plant which in the United States would be the pride of a sub-tropical garden, a huge Solanum, with great hoary leaves covered with formidable spines and bright with great clusters of potato-like flowers, two inches in diameter and of a bright purple color. These Solanums in various species are a feature of Amazonian scenery; they grow very tall forming thick woody stems, and, in the low land subject to overflow in the annual rise of the river, form dense and often impenetrable thickets. In other cases where they grow more thinly, one may walk between the trunks screened by the great leaves far above him, among which hang long bunches of berries usually purple in color, but sometimes whitish or red.

Just as we reach the sidewalk on the other side of the square, we brush against a delicate leaved plant with pink flowers, and as the leaflets close at our rude touch we find the pretty Sensitive Plant (*Mimosa pudica*) of our gardens. It is a pretty plant, but here it becomes a rank weed and is one of the first plants to take possession of a deserted spot. An old "roca" (clearing,) soon becomes covered with the delicate foliage, attractive to the eye, but not easy to walk through unless one clears a path with a long wood knife. In this warm climate the plant is much more sensitive than in our gardens, the least sudden motion of the air causing the leaves to close. We mind us of a time when wandering through the woods in the middle Amazon, we came upon an abandoned clearing of many acres in extent; it was a field of this plant from three to four feet high, the leaves all out-spread to the morning sun, a tramping upon the ground caused all the leaves for a long distance to close, and the whole field seemed to shudder from the motion of the air made by waving the huge butter-fly net to and fro. We have even seen the leaves close when struck by the vibration of the air, produced by shouting loudly. Interesting as the plant is, it is here a nuisance in the garden, as it grows very rapidly and soon smothers every plant near it, so, as it is almost impossible when once grown to keep it and its numerous progeny within bounds, we are obliged somewhat reluctantly we confess, to treat it as a weed.

But what is this bright little flower with delicate foliage, climbing over the tall grass? Another old acquaintance, the pretty Cypress Vine, (*Ipomœa Quamoclit* or *Quamoclit coccinea*) of our gardens. Here though not strictly a wild flower, it is very common, having escaped from cultivation, and many a rubbish heap or clump of unsightly bushes, is rendered attractive by its delicate foliage and hundreds of starry flowers. The species with red flowers is the only one we have seen wild, but the whole flowered variety is common in the gardens, and will probably soon be found along the road sides. The rapidity with which this plant grows is wonderful. The seed will vegetate in twenty-four hours; the plant begins to climb in a few days, and in a few weeks covers everything around it with foliage and flowers. Let it once take possession of a place and it multiplies so from self-sown seed that it is difficult to eradicate it.

Now we come to the chief street of the retail trade, called the "Street of Merchants," and as both sides are lined with tiled front stores, with not a vacant space between them, we shall find no flowers, but prolific nature even here shows a disposition to assert her rights and if we raise our eyes to the roof we shall see a vagrant vegetation. On one roof in the gutter, a Pine Apple had attained considerable size, probably from an old crown carelessly thrown there. Grasses and weeds are common, and occasionally vines hang down, usually of species which best endure the hot sun of the dry season, when their domicil on the roof for twelve hours each day is as hot as a furnace.

Having passed westward along this clean and well paved street, we see before us the tall towers of the cathedral on the further side of the great Palace Square. In front is the wide stretch of grass, the coarseness and ill condition of which we do not at a distance notice, the Mango trees show dark with their heavy foliage, lighted here and there by the brighter tints of the new leaves and the great Royal Palms, (*Oreodoxa regia,*) in a circle around an unfinished monument, stand out tall against the background of the clear blue sky.

Here we find another old friend; the Milk Weed (*Asclepias curassavica*), which we grow in green-houses, forms great clumps, always bright, not only for flowers, but from the numbers of gay butterflies which ever flit over the orange colored blossoms. The air too is at times full of the long feathery arms of the seeds, seeking new homes on the wings of the easterly breeze.

Instead of crossing the Square to the old city, so-called, let us skirt the easterly side till we come to the Estrada of St. Joseph, the finest street in Para, because of the tall Royal Palms which stretch on each side before us as far as the eye can reach. It is a glorious vista; the tall column as trunks and the great fronds which, wide as the road is, almost meet overhead. Below is the long reach of the road, the soil dark red, contrasting well with the rich foliage of the yards on either side, and here and there we see the houses, the fronts all faced with tiles, white, blue, yellow and purple;—truly there is no lack of color! And here we rest to continue our walk in another paper.

EDWARD S. RAND, JR.

Horticultural Societies.

THE NEW YORK HORTICULTURAL SOCIETY.

The March meeting of this society was of more than usual interest, and cannot but have proved satisfactory to exhibitors as well as visitors.

The rules, that all exhibits should be made before 1 P. M., and that the room should not be opened to visitors before 2 o'clock, were not previously enforced, and consequently exhibitors brought their plants whenever they pleased. The committee had to make its report under exceedingly unfavorable circumstances, in a hall filled with hundreds of eager visitors, crowding around the tables and making it often impossible for the judges to obtain even as much as a fair view of the plants and flowers of which they were to judge. These difficulties had been obviated at this meeting, and the report was in the hands of the Secretary before visitors were admitted.

All that remains to be desired now, to make these meetings as interesting as those of any society, is to hold the exhibitions and meetings for discussion in separate rooms.

A short and practical paper on "Carnations," was read by Mr. John Reid.

Premiums were awarded: for Orchids to Isaac Buchanan and D. L. Northrop; for Lilium longiflorum floribundum, to Joseph Kift & Sons and W. K. Harris; for 6 pots Lily of the Valley, to Frank Cassiday; for Hyacinths, to Peter Henderson, A. S. Burns, and Frank Cassiday; for Tulips, to Isaac Buchanan; for Cut Flowers, to Hallock & Thorpe and C. E. Parnell; for Roses, to John Egan and Ernest Asmus; for 6 bunches Azaleas, to James Taplin; for 6 bunches Carnations, to Hallock & Thorpe; for 25 Lilies of the Valley, to Ernest Asmus; for 18 Tulips, to Ernest Asmus; for 100 Violets, to John Egan.

Among other highly commendable exhibits were a magnificent specimen of Bougainvillea spectabilis, from James Haggerty, Poughkeepsie, a perfect sheet of purple-rose colored bracts, towering boldly up nearly to the ceiling of the hall.

A collection of Hardy Perennials, from Woolsen & Co., Passaic, N. J., which contained several rare species.

Mr. John Henderson's collection of Hybrid Perpetual Roses, and the new large flowering Marguerite, Madame Ognier, attracted much attention; also a beautiful Dendrobium from Mr. William Bennett.

BOOKS AND PAMPHLETS RECEIVED.

Aesthetic Horticulture, Ornamental Planting and some of its common errors.—An address before the Horticultural Society of Summit County, Ohio, by L. B. Pierce. The principal errors are ably pointed out and treated under three distinct heads, viz.: 1, Planting too much; 2, Planting the wrong varieties; 3, Planting in the wrong place.

Entomological Society of Ontario, Canada.—Eleventh annual report, including reports on some of the noxious, beneficial and other insects of the Province of Ontario. Several of the papers are of great value to farmers and horticulturists generally. Among them, *Ants*, by Rev. C. J. S. Bethune; *Mites*, by Wm. Saunders; *Weevils*, by W. H. Harrington; *Benefits derived from a Knowledge of Entomology*, by James Fletcher.

Farmer's Guide to Northern Colorado.—A Manual for intending Settlers, by *William E. Pabor*, Associate Editor "Colorado Farmer," Denver, Col.—A pamphlet of 68 pages, containing interesting statistics and other information about the agricultural products of Colorado, and showing the rapid development and increase of its manifold resources. In 1880 the State produced 1,425,104 bushels of Wheat, against 258,474 bushels in 1870, an increase of 451 per cent. in ten years.

Farm Library, No. 4, The Vegetable Garden. A guide for any one who would grow with profit the best of foods for the table, by Dr. Byron D. Halsted, and published by E. H. Libby, Chicago. This number of the farm Library Series is, like its predecessors full of practical information, "boiled down" to a minimum space. Soil, location, manures and tools best adapted for gardening, are successively described, followed by cultural directions for perennial, hardy and tender vegetables.

Hints for Painters, Decorators and Paper Hangers, by "*An Old Hand*," published by The Industrial Publication Company, New York.—A pamphlet of sixty pages, containing a selection of useful rules, data, memoranda, methods, and suggestions for house, ship and furniture painting, paper hanging, gilding, color mixing, and other matters useful and instructive to painters and decorators. The rules and recipes given appear to be practical and reliable, and cannot but prove profitable to every one engaged in painting or paper hanging.

Address of the Hon. Marshall P. Wilder, Ph. D., on the occasion of his fifteenth election as President of the New England Historic Genealogical Society.—The amount of work which President Wilder accomplishes every year is something wonderful for one of his age. His duties as President of the Pomological Society, and his efficient work in the horticultural field alone, are a more arduous task than most men would be able and willing to perform for the public good, but in addition to these he labors faithfully and perseveringly in almost every branch of science and industry, promoting progress and the welfare of his fellow men.

The address before us gives a vivid and carefully condensed review of the leading events of the past year, anniversaries and celebrations, researches and discoveries and other occurrences of historical value. The description of "The Age in which we live," a period which has been more distinguished for its marvellous discoveries, stupendous achievements, and great advance in science, intelligence and Christian benevolence, than any which has preceded it for a thousand years, is especially beautiful and grand.

Flora of Westchester County, N. Y., by *Dr. Oliver R. Willis, White Plains, N. Y.*—This work, originally prepared for Bolton's History of the County, is now issued in pamphlet form, in which it becomes easily accessible to botanists. The author has devoted a good deal of time and study in the preparation of this catalogue, the arrangement of which corresponds with that of "Gray's Manual of the Northern United States." The botanical as well as the English names of the 1142 flowering plants and 46 Ferns and their allies, growing wild or naturalized in this region, are enumerated in systematic order, together with the localities in which they are found, and in the case of trees, the principal uses to which they are adapted, are also given. This being the first published list of this kind, the difficulties in obtaining accurate data were necessarily great, and the amount of labor required in such works, can only be appreciated by those who had practical experience therein. To the collecting botanist, this work will be a most welcome aid in his studies, and to every inhabitant of the county who wishes to become acquainted with its rich flora, it affords valuable assistance.

ANSWERS TO CORRESPONDENTS.

Camellia not Blooming.—*E. W., Harpersville, N. Y.*—Transplant as directed in our March number, and put out doors as soon as the weather permits. Grafting would be of no benefit unless the plant is of wild stock, which is not likely to be the case.

Elm Tree Worms.—*Mrs. W. C. W., Crisfield, Md.*—The destruction of the leaves of your Elm Trees is probably caused by Canker Worms. The article on this subject in the Fruit Department of this number, gives the desired information.

Coal Ashes.—*R. H. Holyoke, Mass.*,—Unless wood is used in connection with the coal, they contain but little fertility, nevertheless they may be used to considerable advantage on heavy soil. They loosen and lighten the soil, make it more porous and thus increase fertility.

Schræder's Brome Grass.—*J. C. K., Yorkville, S. C.*—This new forage plant, (*Bromus Schrœderi*) introduced from Australia, is said to resist drouth better than any other grass. It is sown broadcast like other grasses, at the rate of two bushels to the acre. It is said to yield two good cuttings in a season.

Lupines.—*F. K., Brooklyn, N. Y.*—There are several kinds of Lupines cultivated in Europe. The Yellow Lupine, *Lupinus luteus*, is the most valuable for green manuring. The seed is sown broadcast, at the rate of about two bushels per acre and harrowed in. It requires a light, deep soil, and should not be sown before danger of frost is over.

Potato Sets.—*W. S. S., Mossy Creek, Tenn.*—On good mellow soil and under otherwise favorable conditions, sets of single eyes produce as good crops as larger pieces, but on poor soil, or on freshly turned sod, it is not desirable to cut so small. Would advise to cut large tubers in four, and medium sized ones in two pieces.

Keeping Sweet Potatoes.—*Subscriber, Owego, N. Y.*—Sweet Potatoes grown in dry, sandy soil, keep better than those raised in heavy ground. They should be dug on a dry day and only sound and perfect ones selected. Cut and bruised tubers and such that have been exposed to frosts however light, do not keep well. A dry, warm place for storage is essential; most farmhouse cellars are too damp and cold for the purpose.

Quantity of American Wonder Peas per Acre.—*R. M. H., Farmington Point.*—If carefully sown, one bushel to the acre is enough. There is nothing gained by planting closer, as then the plants crowd each other and bear less. Alpha, Advancer, Champion may be planted for succession, but by sowing American Wonder, every two weeks, and covering *deep* in dry weather, Green Peas may be had all Summer.

Pinching off the Blossoms of Strawberry Plants.—*Miss M. E. G. Rohrersville, Md.*—As a rule it is not advisable to let spring set Strawberry plants bear the first year. The strain of transplanting and bearing fruit is so great that it weakens the plants too much. The blossoms should be pinched off as soon as they appear, and the later in the season the plants are set out, the more important becomes this removal of their flowers.

Rye.—*E. W. H., Morgan Park, Ills.*—Spring Rye and Winter Rye are the same species, botanically, *Secale cereale*. The two varieties have been produced by gradually habituating them to the different seasons of sowing. Many years have been required to effect this change, and the advantages of sowing each kind at its appropriate season, are proved beyond doubt. Spring Rye should be sown as early as possible, at the rate of about one and a half bushels per acre.

The Earliest Market Strawberry.—*J. D. H., Milton, Oregon.*—We cannot speak advisedly for your locality, its climatic conditions being so different from those of the Eastern States. For South Carolina, for instance, *Newnan's Prolific* is the most valuable early variety, while almost everywhere else it proves worthless. *Wilson* succeeds well in your State. Would advise a trial of Duchess, Duncan, Nicanor, Charles Downing.

The Best Strawberry.—*A. R., Erie, Pa.*—There is no "best Strawberry for every purpose." The very qualities which may make a variety valuable for one purpose, generally disqualify it for others. For a general market berry, the *Wilson* stands still at the head of the list. For a good medium family berry, Duchess, Charles Downing, Kentucky, are as desirable as any. For largest size, Sharpless, Pres. Lincoln, Cumberland Triumph. For highest flavor, Black Defiance, Lennig's White, Triomphe de Gand.

Golden or German Millet.—*W. R. L., Coatopa, Ala.*—"Golden Millet" is the proper name for this grass, as the "German Millet" *proper* is an entirely different plant. It is a valuable fodder grass, especially at the South. It should not be sown before the ground is perfectly warm. The soil should be moderately rich and in good mellow condition. It is generally sown broadcast, at the rate of half a bushel per acre, and brushed or harrowed in with a smoothing harrow.

"Damping Off."—*Col. I. A. B., Arcata, Calif.*—This is a drooping or sudden collapse of plants which have been kept too warm and close. It seems as if such plants did not possess sufficient stamina to withstand the slightest adversity. A drop of cold water upon their leaves, a slight draft or a lower temperature makes them succumb and takes the life out of them. There is no remedy for this except prevention, by keeping the plants strong and healthy from the start.

Alfala.—*J. W. D., Belle Prairie, Ill.*—Alfala, or Lucerne, is highly valued throughout the West as a substitute for Clover, both for soiling and hay. As hog feed, for which it is extensively grown, it is greatly esteemed. Two and even three crops have been cut in one season. Lucerne grows well upon dry soil which would not produce grass, the roots strike exceedingly deep, deriving their moisture and nutriment from the sub-soil, and for this reason it readily withstands a drouth which would burn Clover or Grass. Where Lucerne once becomes well established there is little fear of its dying out.

Market Gardening at the South.—*H. C. P., Montgomery, Ala.*—Only an experienced market gardener could successfully manage a large truck farm in the South, and an immigrant, however good a gardener he might have been in Europe, would require several years of careful observation and study here, before he could adapt his ways to climatic conditions so entirely different from those he has been familiar with. Even a gardener from our own Northern States, would probably not be very successful during the first year. Would advise to proceed slowly, until you have become better acquainted with the business yourself.

Box Edging.—*M. S. W., Boston, Mass.*—To make Box edging, a line is stretched close to the bed or walk which is to be bordered. A trench about ten inches deep is opened along this with a sharp spade, so that the side against the line is nearly perpendicular, perfectly true and even. Old Box is then torn into small pieces, to each of which some roots should remain attached. These pieces are then placed in the ditch, against the smooth side, two inches apart, and so that not more than about two inches of the tops remain above the level of the path. The roots and stems are then covered with fine soil, firmly packed, and the furrow filled in. They should then be lightly sheared and watered when the weather is very dry. A mulch along both sides during the first summer is beneficial. Early spring is the best time for planting Box. It has to be sheared every spring, to keep it in good shape. Cutting it in the autumn is very injurious, and is a frequent cause of "Box dying out."

CATALOGUES RECEIVED.

Geo. T. Wales, *Rochester, N. Y.*—Catalogue of Small Fruits, Flower and Vegetable Plants.—A neat Catalogue, with a colored plate of the "La France" Rose, as a frontispiece, giving cultural directions and descriptions of all leading varieties.

Mapes Complete Manures,—Circular of the Mapes Formula and Peruvian Guano Co., 158 Front Street, New York.—A neat pamphlet which contains in addition to price lists and descriptions of the different fertilizers manufactured by this Company, much useful information in relation to the elements of soils and plants, and the manuring and cultivation of crops.

Hoopes, Bro. & Thomas, Hand Book of Beautiful Flowers, West Chester, Pa. A large, richly illustrated and descriptive, handsomely gotten up catalogue of all the best new and old flowering plants for the garden and greenhouse. The cultural directions given for all the most popular plants are especially valuable, and a beautifully drawn sketch of the grounds and greenhouses printed on the cover, gives a good idea of the extent of this establishment.

Daniel F. Beatty's new Piano and Organ Factory, at Washington, N. J., is one of the most extensive and best organized establishments of the kind. The old factory, burnt out entire only five months ago, and since that time these immense structures have been erected and put in operation, turning out 30 musical instruments a day, which we are assured would be doubled in 30, and trebled in 90 days.

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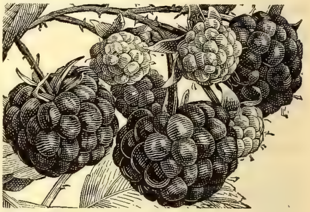

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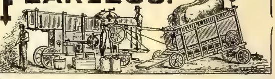
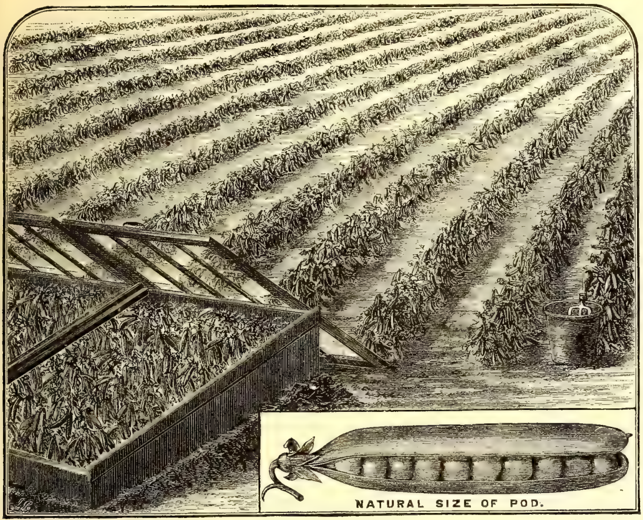


VICTORIES. **UNEQUALED.**

The **only** machine that received an award on both Horse-power and Thresher and Cleaner, at the Centennial Exhibition; was awarded the two last **Gold Medals** given by the New York State Agricultural Society on Horse-powers and Threshers; and is the **only** Thresher selected from the vast number built in the United States, for illustration and description in "Appleton's Cyclopedia of Applied Mechanics," recently published, thus adopting it as the **standard** machine of this country. Catalogue sent free. Address

MINARD HARDER, Cobleskill, Schoharie Co. N.Y.
4

BLISS'S AMERICAN WONDER PEA.



NATURAL SIZE OF POD.

Has Acquired a World-wide Reputation.

Messrs. Sutton & Sons, the eminent English seedsmen whom we supplied with this variety last year, say: "The reports we have received, pronounce this the very *Earliest Dwarf Wrinkled Pea*—of extraordinary productiveness, and of most delicious flavor. In forcing it is unequalled by any other variety—as many as 35 pods (each containing from seven to ten peas), have been found on a single plant.—The above illustration was taken from a crop grown on our own seed grounds. Assured of its popularity, we have grown several acres the past season."

A correspondent in Burrawany, New South Wales, Australia, says, Dec. 6, '81: "The Earliest Pea in cultivation, 22 days earlier than McLean's *Little Gem*, or Day's *Early Sunrise*; of *very best quality*, and *most prolific*. The finest Early Pea for market or private gardens. Plants never exceed 12 inches in height, and are covered with Pods."

Dr. Thurber, Editor of *American Agriculturist*, after two years' trial says: "Messrs. B. K. Bliss & Sons deserve the congratulation of the whole gardening community for having introduced so excellent a variety of this popular vegetable."

From **Rev. Henry Ward Beecher,** July 14, 1881.—"Your Peas are wonderful, none others so good. I do not mean to plant another year any others, early or late. They beat the Alpha in earliness and out of sight in flavor."

From **Hon. Marshall P. Wilder,** *Pres. American Pomological Society, Ex-President U. S. Agricultural Society*, June 30, 1881.—MY AMERICAN WONDER *is a wonder*, equal in sweetness and richness to the Champion of England, which is all that could be desired."

So says in substance every one who has tested it. We have yet to hear the first complaint from any one who has planted the genuine variety obtained from us.

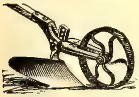
CAUTION.—As there is another Pea in the market called "American Wonder," be sure and call for "BLISS'S AMERICAN WONDER," and receive no other.

PRICES.—One-third pint package, 20 cents; pint, 55 cents; quart, $1.00; by mail, post-paid. When delivered at our store, or sent by express at the expense of the purchaser. One pint 40 cents; one quart, 75 cents; one peck, $5.25.

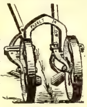
Prices for larger quantities upon application.

Circulars giving a full description mailed to all applicants.

4 **B. K. BLISS & SONS, 34 Barclay Street, New York.**



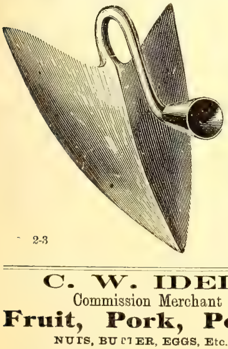
THE PLANET JR. GOODS.



In preparing our new goods for 1882, we have added to our list a number of ingenious and successful **GARDEN TOOLS**, so proven by numerous tests this year. We are also getting ready a much larger and more complete descriptive catalogue than any we have heretofore issued. This will be full of valuable information to every one who tills the soil for profit, and will be mailed free to all who apply now to

S. L. ALLEN & CO., 127 and 129 Catharine St., Philadelphia.

2-3



WARREN HOE.

It is perfectly adapted for Field, Nursery or Garden. Is *superior* to any other hoe at all work for which a hoe is intended, such as Pulverizing, Planting, Hilling, Weeding, Scraping, Chopping out, etc. They are made of *Solid Cast Steel, with Trowel temper*, and warranted not to break with fair usage. No farmer or gardener can afford to do without them, and spend their time and strength on the old hoe. You may not like the looks of them at first, they being so different from the hoe we have been using for thirty years; but use it until you become accustomed to it, and twice its cost will not get you to do without.

It has two sharp edges on either side, extending to the point, making a cutting surface of 16 to 18 inches.

Has a *draw cut* on the principle of a scythe, or as you would hold your knife or any cutting tool, and cuts to the *best* advantage.

Will scour in *any soil*, because it has curves like the mold-board of a steel plow.

Cannot well break, as central ridge is great support.

Prices, No. 1, Ladies' and Garden Hoe, $1.00 each; No. 2, Garden and Field Hoe, $1.25 each; No. 3, Field Hoe, $1.25 each.

2-3 *B. K. BLISS & SONS, 34 Barclay St., New York.*

C. W. IDELL,

Commission Merchant in

Fruit, Pork, Poultry,

NUTS, BUTTER, EGGS, Etc., Etc.,

333 Washington St., near Harrison St.,

NEW YORK.

Special attention paid to Fruits. Stencils furnished on application.

4

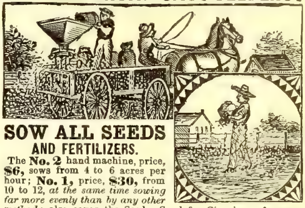
FOUNTAIN
PUMP

WHITMAN'S Fountain Pump for washing Windows, Carriages, etc. Protects buildings from fire, & trees, vines, etc. from insects, potato-bugs and canker-worms. No Dwelling, Country Home, or Factory should be without the **Fountain Pump.**

Send for **large illustrated** Circular. **J. A. Whitman,** Patentee and M'f'r. Providence R.I.

3-4-5-6-7-8

THE PHILA. BROAD-CAST SEEDERS!



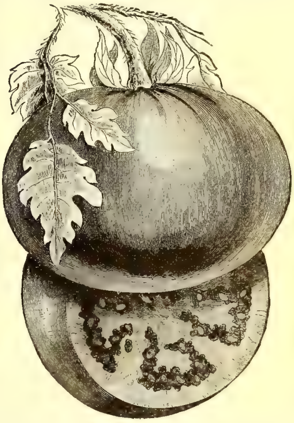
SOW ALL SEEDS

AND FERTILIZERS.

The **No. 2** hand machine, price, **$6,** sows from 4 to 6 acres per hour; **No. 1,** price, **$30,** from 10 to 12, *at the same time sowing far more evenly than by any other method;* also saves the Seed. Send for Circular. **Agents Wanted. BENSON MAULE & CO.,** Philadelphia.

3-4

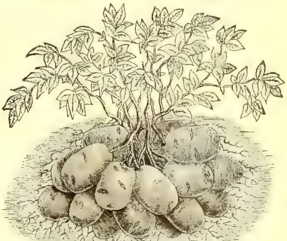
New Early Tomato. **Mayflower.**



The largest, best and most prolific early variety in cultivation. A Premium awarded by the Massachusetts Horticultural Society, in the fall of 1881, as the best seedling variety. For full particulars see February number of THE AMERICAN GARDEN. 25 cents per packet; 5 packets, $1.

B. K. BLISS & SONS,

3-4 **34 Barclay Street, New York.**



ALPHA,

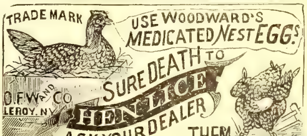
The Earliest Potato Known.

A very early variety for farm and garden culture, also for forcing under glass; fit for the table ten or fifteen days before the Early Rose. Of medium size, clear white, with the slightest tinge of red about the eyes; flesh very white, fine grained, dry and of excellent flavor; quality of the highest excellence. A first-class certificate was awarded by the Royal Horticultural Society of London, in 1874. A silver medal was also awarded by the Massachusetts Horticultural Society. We can recommend this with the greatest confidence **as the very best early variety in cultivation.**

Per pound, 50 cents; three pounds to one address, $1.25, by mail, prepaid. By express or freight, charges paid by the purchaser, peck, $1.25; bushel, $3.00; barrel, $7.00.

B. K. BLISS & SONS,

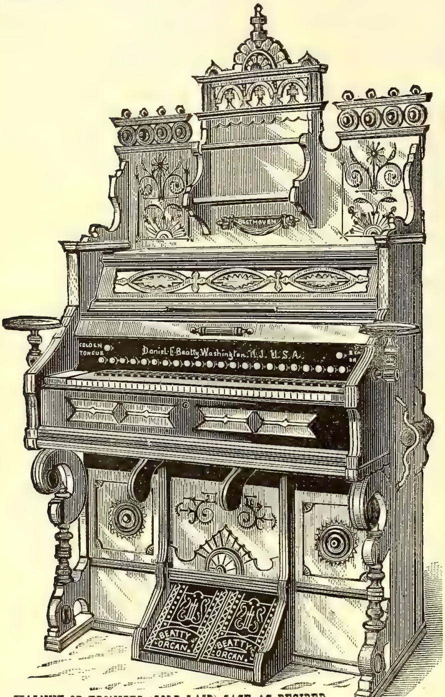
3-4 **34 Barclay St., New York.**



4

BEATTY'S BEETHOVEN ORGAN

Walnut or Ebonized (Gold Laid) Case as desired. 5 Octaves, 10 Sets Reeds, 27 Stops.


GOLDEN TONGUE
Daniel F. Beatty Washington N.J. U.S.A.
BEETHOVEN
BEATTY'S ORGAN.
BEATTY'S ORGAN.

WALNUT OR EBONIZED (GOLD LAID) CASE AS DESIRED.

Dimensions: Height, 75 inches, Length, 46 inches, Depth, 24 inches.

***PRICE, delivered on board cars here, with Stool, Book and Music (a complete musical outfit) for ONLY* $90.00**

The **Beethoven Organ can be shipped in 5 minutes notice,** (now shipping over 50 a day, demand increasing.) Working nights by Edison's Electric Light to fill orders for this style promptly. **Remittances may be made by Bank Draft, Post Office Money Order, Registered Letter,** or by **Express Prepaid.**

SATISFACTION GUARANTEED OR MONEY REFUNDED if the Beethoven Organ, after one year's use, does not give you entire satisfaction, kindly return it at my expense and I will propmtly refund you the **$90** with interest. **Nothing can be fairer.** My object in placing this organ at $90, is to have it introduced into every home in this country. Every one sold is sure to sell another. Often 50 sales can be traced from the first one introduced. All that is asked of the purchasers after giving the instrument a fair trial, kindly bring friends to see it and hear its musical effects, having no agents, no warerooms in large cities (selling direct only), I rely solely on the merits of the Beethoven to speak for itself and kind words from satisfied purchasers, which I am proud to say are many.

THE BEETHOVEN CASE.

[Height, 75 inches; Length, 46 inches; Depth, 24 inches.] Is, as the cut shows, the most magnificent ever made. The view is of a walnut case, highly polished, and ornamented with gold, but when preferred, you can order an ebonized case in pure black, inlay ornamentations in gold, which produce a fine effect, **now very fashionable,** and is furnished at the same price. When ordering, specify definitely which case is wanted. The designs are alike and no case as beautiful was ever put upon the market for any such money, even when ordinary music—as used by other builders—was put in them. Read the following description of Reeds and Stop Combinations carefully, and then give this more than liberal offer a trial by ordering one. **The World can not equal this Beautiful Organ for anything like the money asked.**

Ten (10) Full Sets Golden Tongue Reeds.

It contains 5 Octaves, 10 full sets of GOLDEN TONGUE REEDS, as follows: (1) **Manual Sub-Bass, 16 feet tone;** (2) **Diapason, 8 feet tone;** (3) **Dulciana, 8 feet tone;** (4) **Cello, 8 feet tone;** (5) **French Horn, 8 feet tone;** (6) **Saxaphone, 8 feet tone;** (7) **Voix Celeste, 8 feet tone;** (8) **Viola Dolce, 4 feet tone;** (9) **Violina, 4 feet tone;** (10) **Piccolo, 4 feet tone;** also, Coupler Harmonique, Harp Æoline Grand Expressione, Vox Humana, Vox Jubilante and other grand accessory effects.

27 STOPS! (NO DUMMIES, ALL OF PRACTICAL USE.)

There are no Reed Organs made in this country but what when the stops are used wrong, some will give no sound, hence are then dummies. **If used as directed** every stop in the Beethoven is of **practical use.** Don't be deceived by misrepresentations of Monopolists or their agents. There are 14 perfect combinations on this organ, equal to 14 common organs usually sold by agents combined, and the full effect cannot be produced with less than 27 Stops and not then, without my Stop Action (applied to my Reedboard) which is fully covered by patents, and can be used by no other manufacturer.

SPECIFICATION OF STOP WORK. 27 IN ALL.

(1) Cello, (2) Melodia, (3) Clarabella, (4) Manual Sub-Bass (5) Bourdon, (6) Saxaphone, (7) Viol di Gamba, (8) Diapason, (9) Viola Dolce, (10) Grand Expressione (11) French Horn, (12) Harp Æoline, (13) Vox Humana, (14) Echo, (15) Dulciana, (16) Clarionet, (17) Voix Celeste, (18) Violina, (19) Vox Jubilante, (20) Piccolo, (21) Coupler Harmonique, (22) Orchestral Forte, (23) Grand Organ Knee Stop, (24) Right Knee Stop, (25) Automatic Valve Stop, (26) Right Duplex Damper, (27) Left Duplex Damper.

THE FIRE On September 19th, 1881, my Factory was entirely destroyed by fire, nothing but ashes remaining where was one of the largest factories of the kind in the world.

RE-BUILT Three days afterwards, with my own hands I lifted out the first relic where it stood, and by the aid of vast capital, perfect knowledge of what was wanted, and kind words of cheer from thousands, I was enabled in 120 days to put on steam and start more machinery, in a larger and better equipped Factory than ever on the same ground. The present establishment covers nearly 4 acres of space, and is now turning out a larger number of better instruments daily than ever before. **This achievement is unsurpassed in the history of enterprise.**

I am now receiving orders for the BEETHOVEN (price $90) at the rate of over **1,000 per month,** and as I run my great works **far into the night** by the use of **320**

EDISON'S ELECTRIC LIGHTS,

the only Organ and Piano Factory in the world that uses it, I can fill all orders promptly for this style as I have now with a 200-horse power engine, driving over 100 wood-working machines in their construction.

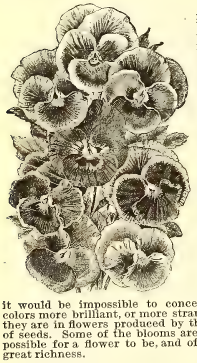
REMEMBER! By the addition of the **very latest** approved wood-working machinery, (which no old establishment has), **vast Capital,** a new factory built after long experience of the wants to do work **well and economical,** and the addition of private switches and railroad tracks to the various doors of the factories, I am now enabled to build **better instruments** for **less** money than ever before, and my patrons have all the advantages of these facilities.

☞ To prove the truth of the statements made in this advertisement I invite all to come to Washington, see for themselves. My manufactory is open to visitors always. (Five) $5 allowed for your travelling expenses if you purchase. Come anyway. You are welcome. A free coach with polite attendants, meets all trains. If you can not call, write for catalogue, or, better still, order a BEETHOVEN on trial, as you can save nothing from this price by correspondence, and I know you will be delighted with the instrument. If you do not wish to buy yourself, will you kindly call the attention of your friends to this advertisement, you will be doing them a real service. **ILLUSTRATED CATALOGUE FREE.**

Address or call upon **DANIEL F. BEATTY, Washington, New Jersey.**

4

NEW GERMAN PANSIES.



The seed we offer is grown in Germany by one who has made this flower a specialty for many years. In size and beauty of the flowers, this strain is unapproachable. Dr. Thurber says, in the *American Agriculturist* for June:

BEAUTIFUL PANSIES.—No doubt that many who have seen the colored plate illustrating Pansies, and published by Messrs. B. K. Bliss & Sons, have supposed that the artist had exercised his imagination, both as to size, and the strange combinations of colors. So far from this being the case, the flowers are, if anything, rather below the real size, and as to colors, it would be impossible to conceive of any artificial colors more brilliant, or more strangely contrasted, than they are in flowers produced by this remarkable strain of seeds. Some of the blooms are as near black as it is possible for a flower to be, and of a velvety texture of great richness.

The flowers from which the drawings were made for the beautiful lithograph which accompanies this number of the GARDEN were raised from this seed.

PRICE OF SEEDS.—Mixed Packets of fifty seeds, 50 cents; collections containing one packet each of eight distinct shades, $3.00.

4 **B. K. BLISS & SONS.**
34 Barclay Street, New York.

15c "**A Violet from Mother's Grave,**" and **49** other popular **Songs,** words and **music** entire, all for 15c. PATTEN & CO., 47 Barclay St., N. Y.
-3-4

Randolph's Hand Seed Sower.

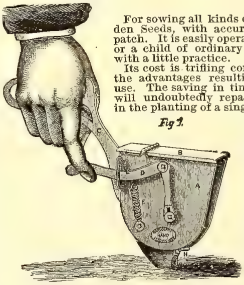


Fig 1.

For sowing all kinds of small Garden Seeds, with accuracy and dispatch. It is easily operated by a lady or a child of ordinary intelligence, with a little practice.

Its cost is trifling compared with the advantages resulting from its use. The saving in time and seeds will undoubtedly repay the outlay in the planting of a single week. Its construction is so simple, that it is not liable to get out of order. Descriptive Circulars mailed to all applicants. Price, $1.25 each. Sent by mail, postpaid, to any address, for $1.50. A liberal discount to agents.

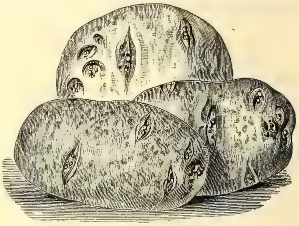
For sale by
2-3-4 **B. K. BLISS & SONS.**
34 Barclay Street, New York.

NEW EARLY TOBACCO,

GENERAL GRANT.

The earliest Tobacco in cultivation, particularly adapted for growing in the Northern States. Last summer it produced leaves 44 inches in length, of proportionate breadth, and matured its crop perfectly, as far north as Duluth, Minnesota. The leaf has extremely small veins, is of the finest possible texture, and very elastic. One of the best judges of Tobacco in New York city pronounces it an exceedingly promising variety, and an old Connecticut Valley grower says it is the choicest as well as the earliest sort he has seen. Directions for cultivation and curing sent with each packet. Price, 25 cents per packet; 5 packets, $1.00.

B. K. BLISS & SONS,
4 **34 Barclay St., New York.**



New Varieties Potatoes.

VERMONT CHAMPION,
BROWNELL'S BEST,
EARLY HOUSEHOLD.

Varieties of 1881.

EXTRA EARLY PEACH BLOW,
ADIRONDACK, WHITE STAR,
AMERICAN MAGNUM BONUM,
QUEEN OF THE VALLEY,
AMERICAN GIANT.

For description and price of the above, also the following popular sorts: ALPHA, *the earliest variety known,* BEAUTY OF HEBRON, **Early Ohio, Snowflake, Pride of America, St. Patrick, White Elephant, Extra Early Vermont, Matchless,** and other leading varieties, send for our Illustrated Potato Catalogue, 48 pages, which contains much useful matter upon their culture. Mailed to all applicants inclosing 10 cents, regular customers free.

B. K. BLISS & SONS,
2-3-4 **34 Barclay St., New York.**

BERRY BASKETS AND CRATES,

BEST AND CHEAPEST.

Money refunded if don't suit. Neat, strong, durable. All that can be desired. Send for large descriptive circulars.

N. D. BATTERSON.
2-3-4 **Buffalo, N. Y.**

New Sunflower, "Oscar Wilde."

The famous Newport Corsage Sunflower. An entirely distinct variety, which originated with a Newport florist. During last season at this noted watering place, hundreds were worn daily by the ladies as corsage flowers. The plant is dwarf and pyramidal in form, flowers are small with jet black center, surrounded with an overlapping row of broad, deep, golden yellow petals, and are produced in the greatest abundance from June until killed by frost. Its small, compact growth and great profusion of bloom make it a most desirable bedding plant, either as a single specimen or in masses. Packets of 25 seeds each, 25 cents.

B. K. BLISS & SONS,
34 Barclay St., New York.

A NEW EARLY SWEET POTATO.

EARLY GOLDEN.

This variety originated in Virginia a few years since, with an old cultivator of the Sweet Potato. It is a sport of the old EARLY RED, but said to be far superior to that variety in earliness, productiveness, color, and quality. Slips planted May 10th produced tubers large enough for the market July 25th. On account of its early maturity, it is believed to be better adapted for cultivation in the Northern States than any other variety. In shape they are somewhat shorter than the ordinary varieties, of a golden yellow color, cook very dry, and are of superior flavor. Another valuable consideration in favor of this variety is that they will grow on quite ordinary soil, with but a slight coat of manure, and yielded a large crop the past season upon land that would not grow above fifteen bushels of corn to the acre. In good soil they will produce many specimens weighing three to five pounds each. It is also an excellent keeper. From what we can learn from those who have tested this variety, we think it will prove the most valuable in cultivation.

We first offered this variety in spring of 1880, and have received many favorable notices from those who have tested it. It matured its crop as far north as Canada. Specimens have been exhibited weighing six pounds. Slips ready about May 15; tubers, early in April.

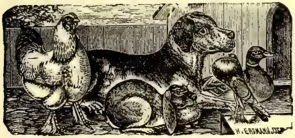
Price of slips, with directions for planting, by mail, post-paid, 50 cents per dozen; $1.00 for fifty; $1.75 per hundred. By express, at purchaser's expense, $1.25 per hundred; $10.00 per thousand.

Price of tubers, 75 cents per pound: three pounds, $2.00, by mail. By express, at purchaser's expense, one pound, 50 cents; five pounds, $2.00; twenty pounds, $5.00; fifty pounds, $10.00.

B. K. BLISS & SONS,
34 Barclay St., New York.

BY HENS

MONEY IS EARNED, AND CASH IS SAVED by knowing HOW to care for them in HEALTH and DISEASE. The oldest, finest, and best Poultry journal in the world is the



Poultry Bulletin,

Devoted to the Breeding of fine Poultry, Pigeons and Pets—large, beautifully illustrated, and brim full of entertaining and valuable reading. As a SPECIAL OFFER, to show you what it is, it will be sent to you from NOW TILL JANUARY, 1883, upon receipt of only ONE DOLLAR.

Address **POULTRY BULLETIN,**
62 Courtland Street, New York City

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—FOR—

ONLY 6 CENTS

In stamps, we will send for 6 WEEKS, on trial, the

PHILADELPHIA Tribune and Farmer.

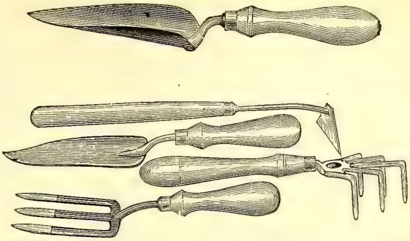
It has a bona fide paid up subscription list of over 26,000, and is issued every Saturday. For the Farm, Garden and Household it is invaluable. The fame of our Agricultural Department under the charge of Thomas Meehan is universal, and admitted by the press of the entire country to be the best.

The Household Department is under the charge of Louisa Knapp, and is exceedingly popular with the ladies. Gives a larger amount—weekly, of interesting matter for the family, Fancy Work, Care of Children, Cooking Receipts, Our Doctors Advice, Helps and Experiences, Fashion Notes, etc. Youths' column complete with Stories, Puzzles, Home Amusements, etc. Stories all complete, none sensational or continued Detective Sketches, exposed sharpers and humbugs. Mose Sinners humorous letters, Personal Gossip and Biographical Sketches every week.

The Very Best Paying Advertising Medium known to Advertisers.

We offer to refund any money lost through any fraudulent advertisement in our columns. We have secured the confidence of our readers by so doing, and can produce more actual results than any other paper of double our circulation. Address

TRIBUNE & FARMER,
3-4 **Philadelphia, Pa.**



WE WILL SEND

To any post-office address in the United States or Canada,

One Excelsior Weeder,
AND
One Polished Steel Garden Trowel,
as shown in the cut,

For 36 Cents.

Either of the above singly for 20 cents, or the full set, nicely packed in a strong box—as per cut, four pieces, on receipt of 60 cents. Remit in stamps or fractional currency.

Lester & Lyman Mfg. Co.
3-4 MILLERS FALLS, MASS.

SEND NOW

Every one who Plants *Seeds* or Raises Flowers, should see and read the **Farm and Garden**, our monthly journal. Every Market Gardener, Trucker, Fruit Grower or Farmer, no matter what he raises, should send for it. Every Housewife should have it. Send 5 cents in stamps to

FARM AND GARDEN, 275 S. 4th St., Phila.

3-4-5

MT. KISCO PAINT WORKS.

HAMMOND'S SLUG SHOT

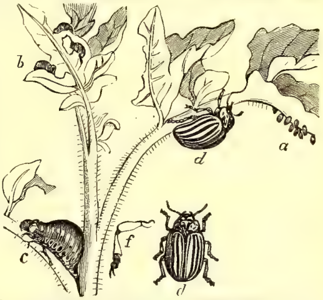
A Guaranteed Exterminator of the Potato Beetle.

It is an impalpable powder, combining fertilizing properties with poison destructive to the Potato-Bugs in the various stages of growth; at the same time the ill-effects of **Paris Green**, or danger from having it around in quantities, are obviated. Cattle or swine are not liable to be harmed by it. It has been used with success in destroying Caterpillars, etc., from pear and Apple Trees, on Egg-Plants, etc.

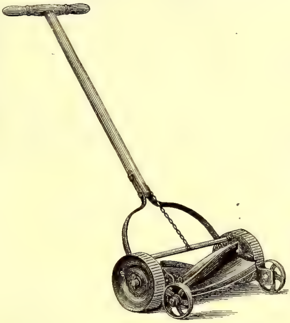
Put up in barrels of 200 lbs. in bulk, $7.50 per bbl. Packages of 5 lbs., 30 cts.; 10 lbs., 50 cts.; 15 lbs., 75 cts. Cannot be sent by mail. Prices to the trade given upon application.

Manufactured by B. Hammond & Co., Mt. Kisco, N.Y.

B. K. BLISS & SONS,
Wholesale Agents,
3-4 **New York City.**



THE DAISY LAWN MOWER.



The Best, Simplest in Construction, Finest Finish, Handsomest and Most Durable Side-Wheel Mower in the Market.

Interchangeable in all its parts. Every Machine unconditionally Warranted. It has an adjustable vibrating handle, and is perfectly adapted for cutting Terraces, Slopes and every variety of Lawn.

AT REDUCED PRICES.

12 inch,	$15.00	16 inch,	$19.00
14 inch,	$17.00	18 inch,	$21.00

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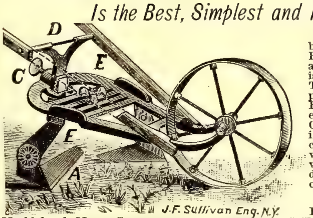

It will do the work of 8 men with the common hoe. Embraces all points requisite to make a capital tool. The Handles can be raised to suit. Knife Blades set to any pitch, and from 7 to 16 inches in width, and when in working order is firm and strong, with nothing to become loose or shaky. This implement has not only given entire satisfaction, but is pronounced unequaled by all who have given it a fair trial. For the interest of all we can safely say that no one will ever regret having given it a thorough trial. For Onions, Carrots, Beets and all Garden Crops it has no equal. It has, in a short time, become the leading Tool in this and other countries. To show our confidence in this excellent tool, we will refund price paid if satisfaction is not given with its work—purchaser paying freight to and from. Leading Gardeners and Seed Growers all use it, and would not do without it. For sale by the following:

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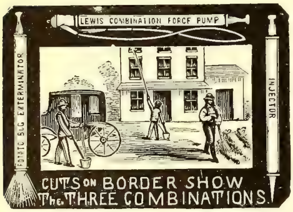

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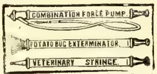
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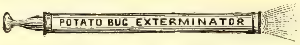

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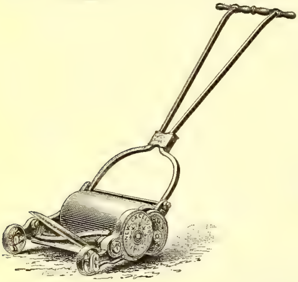

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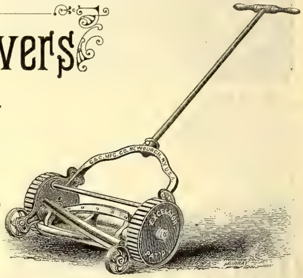

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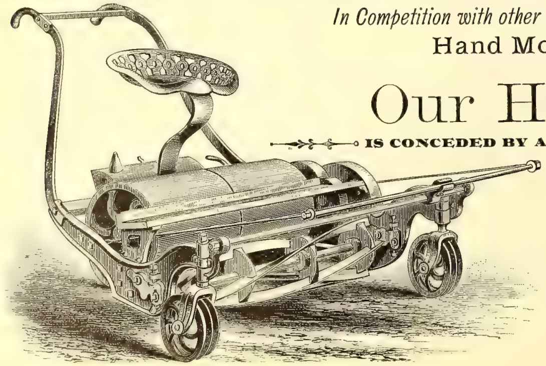

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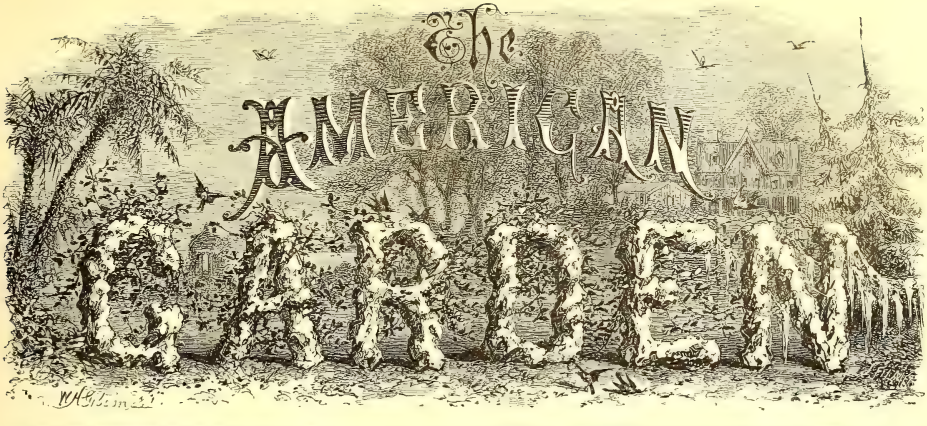

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The American Garden.

A MONTHLY ILLUSTRATED JOURNAL.

Devoted to the Gardening Interests of America.

ONE DOLLAR A YEAR.

SINGLE NUMBER, 10 CENTS.

DR. F. M. HEXAMER, : : : Editor.

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GARDENING FOR HEALTH.

Thousands of people, worn out by hard work and harrassing cares, or by balls and parties, late hours, and the many other not less exhausting demands of fashionable society, are now making plans for a sojourn to the country during the summer months.

Some decide upon a quiet farm-house, far off from city and the busy world, as the best place to rest and invigorate their nerves and muscles. Others select a favorite sea-side resort, with all its gayeties of the season, as the sanitarium expected to revitalize their impoverished blood, and to restore the wasted energy of their nerves.

The one is unmindful of the fact that inactivity and idle rest affords no recreation to a busy man, and the other forgets that a change of scenes and locality merely is not sufficient to impart health to mind and body. The change, to produce the desired effect, must be a change of one's occupation, the current and subjects of thought which engross one's mind. It should be to healthy, pleasant surroundings, where the mind may find sufficient interest to become attracted to some light physical work, which, while not fatiguing, should stimulate a healthy action of the system.

To those who have liking and fondness for plants and flowers,—and we pity any one who has not,—nothing will prove so efficacious as "gardening for health." When engaging board at a farm-house, they should at the same time secure for themselves a piece of ground in the garden. Here they should sow and plant a few flowers or vegetables, or whatever appears most promising, attend to their needs, and devote a certain time every day to their care. It is surprising how soon one becomes interested in such work. Or, if you prefer, you may work a little in the farm-garden, which will probably not be objected to, unless you are so deficient in botanical knowledge as to pull out the Water-melons instead of Rag-weeds.

Pale, delicate young ladies, whom often the slightest exertion tires, will also find that a little time regularly spent in the garden will have a favorable effect upon their system. Thick-soled shoes will keep your feet dry, a broad-rimmed sun-bonnet will guard your complexion, and a pair of old kid gloves protect your hands from becoming rough. Devote the first part of the morning, or an hour before sunset, to your garden. Commence with what seems to you the easiest and most pleasant work—tying a climbing vine against the porch, cutting off the fading flowers from your plants, or raking a flower-bed; but, whatever your fancy may suggest, do not tire yourself out in the beginning: better to work only five minutes at the time than become fatigued and discouraged. With the interest you take in your garden your strength will gradually increase, your drooping spirit will revive, and the blush of your Roses will become reflected upon your own cheeks.

NOTICES OF THE PRESS.

We are glad to give our special recommendation of THE AMERICAN GARDEN, now in the third volume. It is beautifully printed and illustrated, and full of practical instruction both for the flower and the vegetable gardener.—*Boston Post.*

THE AMERICAN GARDEN (Dr. F. M. Hexamer, editor: B. K. Bliss & Son, 34 Barclay street, New York) has come to hand. It is full of very interesting matter, well arranged, well edited, and typographically excellent, and well worth subscription price—$1.00.—*American Wine and Grape Grower.*

THE AMERICAN GARDEN, a monthly illustrated journal, devoted to the gardening interests of America, is a most excellent publication. Its pages contain valuable practical articles in relation to the Vegetable and Fruit Garden, Flowers, the Lawn and Landscape, etc.—*Queen's Co. Sentinel.*

The April number of the AMERICAN GARDEN is one of the best numbers of that enterprising publication we have ever seen. All of its departments are full of interesting original articles, written by experienced gardeners and horticulturists. The GARDEN is published at the low price of $1.00 per year.—*Mt. Kisco Recorder.*

THE AMERICAN GARDEN.—A monthly horticultural journal, published by Messrs. B. K. Bliss & Sons, New York. Among the many publications which find their way periodically to our table none are more welcome than this. When we say that it is always a worthy specimen of the printer's best art, and is edited by the veteran horticulturist, Dr. F. M. Hexamer, we have given ample reasons for our admiration of it.—*Agricultural Epitomist.*

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The Vegetable Garden.

SEASONABLE HINTS.

Although spring opened unusually early, the past month has been cool, and sharp night-frosts have injured many tender plants. As a rule there is nothing gained by sowing and planting in advance of the proper season.

Melons, Sweet Corn, Lima Beans, etc., should not be placed in the open ground in this latitude before the middle of May. Their seeds cannot sprout before the soil is thoroughly warmed, and they will rot in cold, wet earth.

Tomatoes, Peppers, and *Egg-plants*, likewise, should not be transplanted out-doors before all danger of frost is past, which is not the case before about the 20th of this month. If, previous to this time, the plants in hotbeds or in boxes become too large, they should be transplanted into pots and pinched back, which process retards their growth and fits them better for their final transplanting.

Economy of Space is an important item in small places where, to obtain the best results, it has to be carefully studied. It is surprising how much can be grown in a small garden when systematically planted. Two or three crops may often be taken from the same ground in one season, if planting is so arranged that the rank-growing late vegetables occupy the ground made vacant by the removal of earlier crops.

Rough Places, which are too stony or too steep for general cultivation, and are therefore given up to weeds and briars, are frequently found within easy access from the farm-house. Such spots, especially when facing southward, offer generally the most favorable conditions for raising tender vegetables requiring considerable room, such as Water-melons, Squashes, Tomatoes, and similar plants. The soil immediately around the plants has, of course, to be made rich and deep; but as the hills should not be nearer together than ten feet, and may be even considerably farther apart, a foothold for the roots can easily be made by digging or banking up.

Potatoes for early use or marketing have, of course, to be planted as early as the ground can be worked; but early planted Potatoes do not generally produce the largest crops, nor are they desirable for keeping through winter. From a comparison of the practice of a great number of successful Potato-growers, it appears that from the 15th to the 25th of May is the most favorable time for the planting of the main crop. Last year we planted Potatoes at various times during May and June, the last ones on the 3d of July. This last planting produced not only the largest crop, but the largest and best-shaped tubers.

Cut or Whole Potatoes for Seed.—Condition of the soil, time of planting, and the price of seed have to be taken into consideration, in deciding for one or the other plan. For late planting, whole Potatoes are decidedly preferable to cut ones. The skin of a Potato is almost impervious to water, therefore an uncut tuber retains sufficient moisture for the nourishment of the young sprouts, even in very dry ground, and under conditions which would completely dry out a cut piece.

FARMERS' GARDENS.

Years ago ex-Governor Seymour, of New York, told me about his garden and the success which he had—generally getting vegetables earlier than his city friends. I have followed his plan ever since, and it has given so much satisfaction, and is so much of an improvement over the old garden system, that I am sure the readers of THE AMERICAN GARDEN, especially those living on farms, will be interested in it.

One part of a field, as handy to the house as may be, is used for the garden. This land is well covered with manure, which is plowed under as early in the season as the ground will admit of working in a mellow and friable condition. It is then harrowed thoroughly, and gone over with a roller to make it smooth, all coarse clods and stones being removed previously.

The ground is then marked out in straight lines, two feet apart, ready for planting, except for the finer vegetables, for which the marking is done by hand. The depth of the marking is graduated according to the kind of seed to be put in. The rows are made not less than two feet apart, so that they can be worked with a horse and cultivator. As soon as the vegetables are up, so that the rows can be seen, the cultivating is begun. By making the rows perfectly straight and turning the hind teeth of the cultivator from the row the ground can be worked close to the plants, thereby doing away with hand labor, except to a very limited extent.

Frequent cultivating will keep the ground mellow, which causes the vegetables to grow rapidly. This frequent tillage also lets in the sunshine and increases the moisture. This is one of the secrets of rapid growth, and is a great improvement over the old garden system, where the tillage is all done with a hoe, and the ground is usually hard, or, at least, not mellowed, except on the surface. An hour's work with a horse and cultivator will go over a large garden, which would require days to accomplish by hand labor with a hoe. There is nothing more irksome to a farmer or his boys (the hired man not excepted) than "plodding" in the garden; but when the work can be done with a horse, they do not object to it; all the seeds should, therefore, be sown in drills.

When a field is used for a garden there are generally fewer weeds to contend with than in an old garden spot, which makes the raising of vegetables less irksome. Most gardens are so much shaded with shrubbery and trees that vegetables cannot do well in them, and, besides, the numberless roots from these shrubs and trees exhaust the moisture necessary to the growth of vegetables. In the field none of these objections exist, but, on the contrary, the conditions are all favorable; hence it is that the vegetables will be earlier and better. With a field-garden every farmer can supply his table bountifully with all sorts of vegetables, at so small a cost that none need be without them.

Melons have been made a success at "Kirby Homestead" by putting two seeds in a two-inch pot and setting the pots in a hotbed, filling the spaces between with sand. If both seeds come up in a pot, the weakest one is pinched off. When the plants begin to run they should be transplanted in the open ground. A shovelful of well-rotted manure is mixed with the soil, into which a single plant is set. The plants can be easily removed from the pot with the earth attached to the roots. They should be shaded a few days, the ground thoroughly wetted, and the surface covered with sand to the depth of several inches, for a distance of two or three feet around the plant. The sand will keep the ground moist underneath and attract the heat on the surface, which is essential in growing Melons, especially Water-melons. In the absence of sand or gravel, small stones may be placed around the hill.

The best location for Water-melons is on the south side of a fence or building, which helps to increase the heat. The ground should be kept clean and mellow between the hills. The earliest varieties should be planted in high latitudes, and when this is done and the above rules are followed, a fine crop of Melons may be had with very little trouble.

COL. F. D. CURTIS.

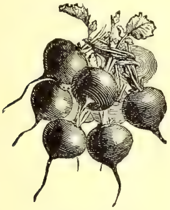
THE LETTUCE MILDEW.

Market gardeners in some localities have, during the past few years, suffered more or less severely from a mildew which has attacked and sometimes entirely destroyed their early, forced Lettuce. The writer has been to some expense in both time and money in looking into the subject of the Lettuce pest, and is free to state that the Lettuce mildew is a near relative of the Grape mildew, though much more rapid and destructive in its work.

The Lettuce mildew is a minute fungus which grows in the substance of the Lettuce plant. There are a great many kinds of fungi, and most of them are exceedingly small and need to be seen with the compound microscope in order that their simple structure, methods of growth and propagation may be understood. The Mushroom and the various Toadstools are the largest representatives of the fungus group—a group, the members of which have no leaves, roots, true stems, or flowers. Fungi are all very low in their organization, and we should not pay much attention to them if they did not make serious trouble to the farmer by growing upon his grain as rust or smut, or to the fruit-grower and gardener, by producing the many blights, molds, and mildews. We are forced to look into the nature of these pests that we may be the better able to apply a remedy. Though fungi have been known to cause various so-called diseases, it was not until very recently that any prolonged study was given to them, therefore the knowledge that we have of fungi is much of it of recent date, and withal quite limited in extent.

The surface of the attacked Lettuce plant is seen to be covered with a white frosty substance. With a hand lens this coat resolves itself into a miniature forest of very small stems and branches. To understand the nature of this "forest" we must first examine the interior of the Lettuce leaf. This may be done by making a thin section of the leaf, and placing it under the compound microscope, when it will be found that there are fine threads running in all directions among the cells which make up the tissue of the Lettuce leaf. The facts in the case are not difficult ones to grasp. The fine threads that have been found are the "roots," so to speak, of the mildew plant which take up the nourishment, that the mildew plant needs, from the substance of the Lettuce plant. The mildew plant grows in the Lettuce in somewhat the same way that the Lettuce plant grows in the soil, only the Lettuce plant gets its food from first hands, while the mildew plant steals its food from the Lettuce.

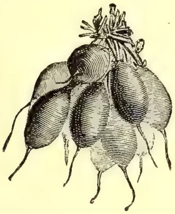
Now, as to the frosty covering which was found on the surface of the Lettuce leaf. This represents or corresponds to the stems and fruit or seeds of higher plants, though fungi are so low in their organization as not to have stems and seeds. The threads within the substance of the Lettuce at the proper time turn toward the surface and pass out through the little holes called breathing pores. After reaching the air they branch, and upon the tip of each branch a small oval body, the spore, is formed. These branched threads and their spores make up the frost-like covering which is seen upon the mildewed Lettuce.



EARLY SCARLET TURNIP RADISH.

The spores are the small bodies which are capable of germination and spreading the disease, and are, therefore, in function, though not in structure, like seeds.

A remedy for the mildew is a very important thing. It is of value to know the nature of the pest, but of still more practical importance to be able to stop its ravages. There is a strong objection to the use of flowers of sulphur—a substance that is an effectual remedy for the Grape mildew—because the foliage of the Lettuce is both the portion dusted and eaten, and unless the leaves are thoroughly washed the consumer would be suspicious of eating sulphur. Lime sprinkled upon the plants has proved of use, but there are objections to everything that is put on the plants. It would seem best to abandon the growth of Lettuce in those localities where the soil has become infested with the spores, for a period of time sufficient to kill the germs by starvation. The pest is so obscure and rapid in its workings that prevention rather than cure must be pursued. There is no trouble from the pest on new soil, or that where Lettuce has not been grown.



SCARLET OLIVE-SHAPED RADISH.

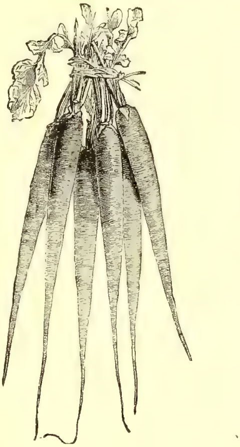
Dr. Byron D. Halsted.

RADISHES.

The quality of all vegetables depends more or less upon the composition and conditions of the soil in which they grow, but with none are these of greater importance than with Radishes. To raise tender, mild, and crisp Radishes, a deep, rich, light soil is indispensable. It is only in such ground that they can make a rapid growth, without which they become tough and stringy.

Radishes for earliest use are raised in hotbeds, and should be among the first seeds sown; and as soon as the ground can be worked in spring, a sowing should be made outdoors. A large quantity can be raised from a comparatively small piece of ground; it is, therefore, well worth the trouble to bring this in the most favorable condition.

On heavy, clayey, and wet soils it is impossible to grow first-class Radishes. When no other is available, such ground should be well dressed with rotten stable manure, worked deeply and thoroughly, and receive an admixture of fine muck and sand, sufficient to make it mellow and friable. The seed should be sown thinly in shallow drills, twelve to fifteen inches apart, and covered about half an inch deep. Some prefer to sow broadcast, and to rake in the seed, and good results may be obtained in this way. To have a continuous supply, additional sowings must be made every ten days or two weeks.



LONG SCARLET SHORT-TOP RADISH.

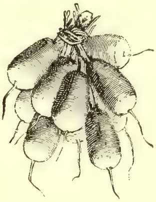
Most market-gardeners raise Radishes as an auxiliary crop, and their plan may also be adopted to advantage in the family garden. To make the rows of slowly germinating seeds discernible as soon as possible, a small quantity of Radish seeds are sown with them in the same drills. The latter seeds sprout so quickly that the rows become visible in a few days after sowing, and can be cultivated much sooner and easier than would otherwise be possible; and the Radishes are fit for use, and will have been pulled, before they have become large enough to interfere with the growth of the other vegetables.

The most popular varieties cultivated—represented, in considerably reduced size, in the accompanying illustrations—are:

The Early Scarlet Turnip, grown extensively for early marketing, is round, bright red, of medium size, and mild flavor; it grows rapidly, and should be used before it attains its full size.

Early Short Top Long Scarlet, the most valuable long variety for market, as well as for home use. Grows six to nine inches in length, is of bright scarlet color, and, when grown in suitable soil, of the best quality.

Scarlet Olive Shaped.—A very early, handsome, and excellent variety; is of light crimson color, oblong shape, tender, and desirable in every way.



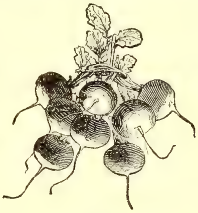
FRENCH BREAKFAST RADISH.

French Breakfast, much used for early forcing, on account of its quick growth. It is of scarlet color, oval form, and good flavor.

White Tipped Scarlet Turnip and *Olive Shaped* are now much in favor. They do not differ from the varieties of which they are sports, except in the color of the tips, which are pure white, making them very attractive and ornamental for the table.

ASPARAGUS.

The most essential requisite for successful Asparagus culture is sufficient space, and yet not one bed in ten is planted with a view to supply this need. The old system of paving the bottom and crowding the roots into narrow beds, so that they could not extend in either direction, must have been borrowed from the Chinese, with whom the dwarfing and distorting of forest trees and women's feet has reached the highest perfection, and ranks among the fine arts. But, as even the Celestials are commencing to shake off old superstitious notions, we shall, perhaps, also participate in the march of progress, and plant Asparagus according to the natural laws governing the plant.



WHITE-TIPPED SCARLET TURNIP RADISH.

The best and easiest way to raise Asparagus in the garden is to plant it two feet apart in *a single* row, and let the roots reach out, for their nourishment, as far as they may. If it is not feasible to lengthen the row sufficiently to produce all the Asparagus desired, a second row may be planted not nearer than four feet to the first, and when more space can be given a distance of six feet is preferable.

The Fruit Garden.

SEASONABLE HINTS.

Planting of fruit-trees and berry-plants may be continued during this month, and, if ordinary care is exercised, as successfully as during the earlier part of spring. Many city people move now to the country and country residents change their homes, which undertaking causes naturally much work and confusion, during which the garden "that is to be" is likely to be forgotten. Yet it is not wise policy, even under such perplexing circumstances, to devote all one's energy and time to painting and papering and carpet-laying, without giving a thought to the planting of fruits until the proper season is past. Better to live in an uncarpeted house a few days longer than to be without a supply of berries next year. Walks and edgings and "fixing up" may be made later, but the planting must be done now.

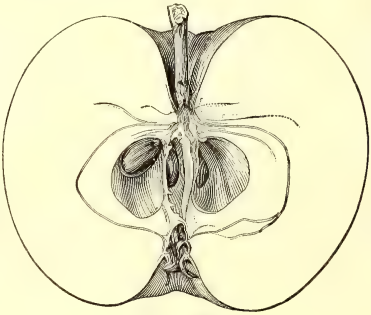
Strawberries, without a bed of which we can hardly imagine a country home, will naturally attract our first attention. We have given last month a list of the most desirable and reliable varieties which may serve as a guide to the novice in fruit-culture. When the plants are received from the nursery the box or package should be opened at once, as at this season plants are liable to heat when closely packed, and a single day's delay in unpacking may prove fatal to them. If the roots are found dry they should be dipped in water and covered with moss or soil, otherwise no water should be given. The indiscriminate pouring of water into boxes packed with plants does more harm than good, as plants in transit suffer generally more from too much than too little moisture. If the ground is very dry and the weather hot, it is usually safer to defer planting till a cloudy day, to open the bundles and keep the plants meanwhile in a cellar or heeled in outdoors in a shady place. When there is no near prospect of rain, however, and the plants have to be set out in a dry time, it becomes very important to keep the roots covered with moss and not to expose them to the sun more than is unavoidable; remove all decayed leaves, pinch off all flower-buds, water well after planting, and keep shaded during daytime until new leaves commence to grow.

Raspberries and Blackberries, if they have been kept dormant by having been dug early in spring and heeled in, may now be planted without risk. The later in the season they are planted, the more necessary it is to cut off the canes to within nearly the level of the ground. These canes are of no good whatever to the plant and only deprive the young sprouts of nourishment.

Planting Trees.—Some persons would not plant a large tree if it was given to them, while others cannot get them large enough. The fact is that the size of a tree is not nearly as important as the condition of its roots and its general character. A large nursery-grown tree, properly cared for, and dug without mutilating its roots materially, may be preferable to a smaller one not so treated, and if carefully planted and cut back, in proportion to the loss of roots, will have a better chance to live than a smaller one carelessly handled.

FRUIT-GROWERS VS. MERCHANTS.

The interests of fruit-growers and commission merchants are so directly connected, that the more closely they study and weave these interests together, the more benefit will each derive without detriment to the other. It is not to be expected that a merchant can know all about the growing of fruit, but it is indispensable that he should keep himself well informed about all the new fruits introduced into the market, and be able to inform the grower as to their respective merits, so as to protect him from imposition. A dealer should make it his business to know how the different varieties yield in the various soils in which they grow, as the large and practical experience which he may derive from studying the various conditions that come under his observation are of the greatest importance to the grower, and it is evident that a dealer can handle fruit with more satisfaction to the shipper and to himself, if he knows all the peculiarities connected with it. Commission-men, or middle-men, as they are sometimes called in a disrespectful sense, receive naturally a percentage of the proceeds; yet it seems difficult to perceive how this could be avoided, and those who grow fruit for distant markets cannot do without them.



HIGHLAND BEAUTY.

The grower must stay at home to superintend the picking and shipping of his fruit, and only a fruit-grower can know the amount of energy and brains necessary to do this work well. He knows how difficult it is to procure men who possess these qualifications.

The merchants make it their business to sell the fruit, and it requires all their time and talent to do it well. Besides, new packages for the marketing of fruit are frequently introduced, and when one is found more valuable than older ones, it is his duty to inform his growers, and recommend its adoption. Frequently a defect is found in a package used by some shipper, which should be mentioned to him at once, that he may remedy it.

The rapidity with which some dealers handle large quantities of fruit is really astonishing to those who stand by and see it done; but it is simply the result of experience, a thorough system of business, and having a number of intelligent buyers, and a thorough understanding between the growers and the dealers in regard to the quality of the fruit sold.

As a general rule, merchants try to secure special buyers for particular marks of fruit that can always be relied upon, and when these marks are expected, the customers will wait for them, rather than buy others.

A grower should also be careful not to consign his fruit to a merchant of whom he does not know anything. Every fruit-grower receives occasional solicitations from parties unknown to him, who make great promises without being able to substantiate their claims. It is generally a safer plan to take no risks of this kind, and to deal only with persons of well-known reliability. After selecting your merchant, tell him what quantities and varieties you intend to market, and get his opinion in regard to the shipping of them; and before you begin to ship, write him and let him know about how large your daily shipments will be, and if you find that your fruit is ripening more rapidly than you expected, let him know at once so he may be prepared to handle a larger quantity without extra trouble to himself or loss to you; for remember that the conditions which ripen your fruit also ripen your neighbors, and they too will send larger quantities. Without this information, the dealer may become overstocked and be compelled to sell the fruit at a low figure. Even a few hours advanced information may save the shippers many dollars, for dealers have many outlets for fruit, and if they know in time of its coming, they can open these safety-valves and dispose of the fruit to good advantage. I remember of an instance where a shipper lost one hundred dollars on a single shipment of berries simply because he did not telegraph to the merchant when he started the fruit.

Much delay is often caused by the neglect of growers, who ship from more than one station, to give the name of their post-office.

These and other difficulties, many of which may be avoided by a little consideration and forethought, cause often unnecessary misunderstandings. As was stated above, a careful study of the mutual interests benefits both parties, and nothing adds so much to make business transactions run smoothly and agreeably than an interchange of opinions and a kind word of commendation when deserved.

C. W. IDELL.

THE HIGHLAND BEAUTY APPLE.

For the past two or three years we have occasionally noticed this golden, rosy-cheeked beauty at the exhibitions of the New York Horticultural Society, but had not before an opportunity to examine it more closely until recently, when Rev. E. P. Roe, of Cornwall, N. Y., the proprietor of the stock, kindly sent us a few specimens for trial.

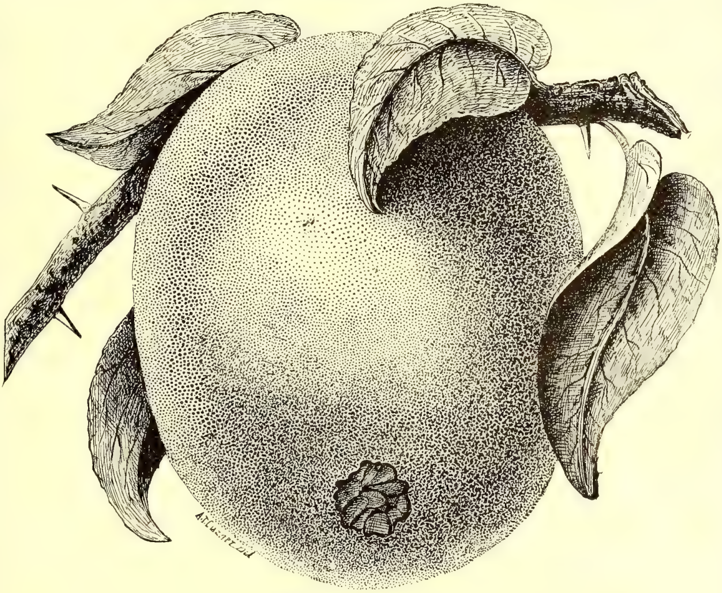
It is supposed to be a seedling of the Lady Apple, which it somewhat resembles. Our samples were not quite as large as the above illustration, which, for a dessert fruit, would not be considered a disadvantage. These specimens were in good condition during the first week of April, and as handsome as an apple can well be. Its quality is good, although lacking somewhat in sprightliness. Its principal value seems to consist in its excellent keeping quality and great beauty, which it possesses in such high degree as to be entitled to a place among the most desirable dessert fruits.

THE WASHINGTON NAVEL, OR RIVERSIDE ORANGE.

The impetus which the introduction of varieties, specially suited to the climate of California, has lately given to Orange culture in that State is something marvelous. To judge from the success already achieved in Orange culture, and the almost limitless resources for its extension, the time cannot be far, when the "Golden State" will flood the world with shiploads of her golden fruits, bringing pleasure and delight to many hearts and more wealth to herself than all her golden ores.

Oranges have been grown in California from the time of its first settlement, but none of the varieties seemed to possess sufficient superiority over imported fruit to make their cultivation on a large scale very profitable. In 1873 the Agricultural Department at Washington imported several Orange trees from Bahia, Brazil. One of these was sent to Mrs. L. C. Tiblets, of Riverside, Cal., who distributed some of the buds among a few friends. But little attention was paid to the original tree nor to its offsprings until 1879, when some of the fruits were exhibited. Their beautiful color, peculiar form, and excellent quality, attracted immediate attention and stimulated its propagation. It was named "Washington Navel," to distinguish it from the "Australian Navel," introduced about the same time. The latter is distinctly ribbed lengthwise, of light color and inferior quality, while the "Washington" is smooth, of a golden bronze tint, and a fine textured, satin-like skin; its flavor is delicious, somewhat like a combination of the best qualities of the Messina and Florida Oranges, and the fruit has the additional advantage of having no seeds.

Ever since the "Washington Navel," or "Riverside," as it is now christened after the place of its adoption, made its first *début*, it has eclipsed all competitors, and has taken first premiums wherever exhibited. The accompanying illustration is an exact representation of one of the premium Oranges, which, together with other prize fruits of the Citrus Fair at Riverside, were exhibited at our office last month, where they attracted considerable attention, especially the magnificent specimens of Navel Oranges from Mr. James Bettner and from Mr. T. W. Cover, which prominent fruit-dealers declared to be the finest Oranges they had ever seen.



WASHINGTON NAVEL ORANGE.

THE PEACH.

OBSTACLES TO GROWTH, AND REMEDIES.

In an address before the Potomac Fruit Growers, Dr. G. F. Needham sums up the evils which beset the Peach-tree, as follows:

The Peach is one of our most important fruits and the one most extensively cultivated. It is so easily raised, comes so early into bearing, is so delicious and beautiful, that it is a universal favorite. Therefore so many amateurs, novices, etc., impelled by the love of nature in one of her most beautiful forms, or by the hope of fortunes rapidly gained, become planters. The end is a laudable one, and we should rejoice and encourage the cultivator. It should enlist our patriotism and benevolence.

We now propose to say a few plain things, by way of making known the difficulties in Peach culture and how to remedy them, so as to make the pursuit a success.

First. The first drawback is the *habit* of the Peach tree. The fruit grows, as is well known, on the wood of last year's growth. If the tree begins to bear, say in the third year, the next crop will be gathered some three feet beyond the first, and so each year three feet further from the trunk of the tree, until at length the crop hangs so far from the stem and on such slender branches that the tree breaks down and perishes. This whole thing can be prevented by cutting back one-half of the new wood each fall and by thinning out the fruit, and thus have good-shaped trees and large, luscious, and paying fruit.

Second. Early blossoming in the spring — so early that the late frosts very often destroy the fruit buds. Even in the State of Georgia, Peach growers have to take measures to prevent the frost from injuring their fruit. The most feasible remedy is to plant the trees with a northern exposure.

Third. Climate changes, producing curl of the leaf. Some have thought that this trouble was caused by insects, but Mr. Saunders has demonstrated that it is the effect of sudden changes of the atmosphere. This trouble, of course, weakens the tree, as the old leaves must be replaced.

Fourth. The grub of the *Ægeria exitiosa* (the borer) causes great destruction of Peach trees. The perfect insect, somewhat resembling the wasp, lays its eggs in June at the base of the tree, which in a few days hatch and the grub enters the bark, and lives on it till September or later, and then enters on its chrysalis state preparatory to appearing again the next spring. If your trees are already infested, dig the pests out — *make thorough work.* If you are not quite sure that you have captured them all, pour boiling water around the roots. If in May of each year you make a mound of earth around each tree, and in October remove it, you will be no longer troubled with this insect.

Fifth. The Curculio. This little turk hangs his banner all along the line of stone fruits. Many remedies have been suggested, but the most simple and thorough is to shake the trees early in the morning as long as the trees are in blossom. The best way is to drive a large nail into the trunk among the branches and strike several sharp blows when the insects will fall on to the sheets you have placed under the tree, and must be killed.

Sixth. The Yellows. This disease is the yellow fury of the Peach-tree. It has destroyed and is destroying more orchards than all other causes combined. The cause is not known. The only remedy is to dig up the trees and burn them at once, and prevent the contagion from spreading. If it be desirable to replace the tree, the soil should be removed, fresh earth that has been well limed should be used in its place.

Thus eternal vigilance is the price of fruit, and the knowledge that it costs so much care, labor, and effort to grow the luscious fruits should make them taste all the more delicious.

[Recent investigations have shown that the leaf-cells of trees affected with "Yellows" are filled with a superabundance of starch. The knowledge of the fact that potash has the power of dissolving starch led to experiments in this direction. Muriate of potash was applied to the roots of diseased trees, after which they recovered speedily, and the starch disappeared.—Ed.]

The Flower Garden.

TRAILING ARBUTUS.

Deep in the lonely forest,
High on the mountain-side,
Long is the dreary winter,
Short is the summer-tide;
Just in the breath between them,
Pregnant with sun and showers,
Starts from the earth primeval
Fairest of northern flowers.

All through the sunny summer
Lavish with wealth of bloom,
She, too, hath shared life's fullness
Hid in her forest gloom;
Nurtured with dews and sunlight
Richly her buds are fed,
Fresh while the summer fadeth,
Fresh when its flowers are dead.

Then, when the rude winds seek her,
Threaten her buds to blast,
Fiercely assailed by winter,
Fearless she holds them fast;
Fast, till the spring draws nearer,
Fast, till the days grow fair,
Fast, till the April showers
Quicken the chilly air.

Woke by the murmuring breezes,
Kissed by the shining sun,
Up in a burst of transport
Starteth the prisoned one!
Blushing in fairy clusters,
Pressing a mossy bed,
Leaves of autumn russet
Over her soft couch shed.

Close to the damp earth clinging,
Tender, and pink, and shy,
Lifting her waxen blossoms
Up to the changeful sky;—
Welcome! our spring-time darling,
Fresh in thy virgin-hue,
Long as the oaks stand round thee,
Yearly thy charms renew!

ELAINE GOODALE.

SEASONABLE HINTS.

Summer Flowering Bulbs, as now cultivated in our gardens, are something very different from what was known under this term a few decades ago, for in hardly any other branch of floriculture have the skill and perseverance of hybridizers been so richly rewarded, and especially in *Gladiolus*. These brilliant flowers, although grown in large quantities in many gardens, are still unknown to many lovers of flowers, and have not yet taken a foot-hold in many a neighborhood. Mixtures of choice varieties may now be obtained so cheaply, and their cultivation is so easy, and success so sure, that it seems almost incredible that there should still be a flower garden without a Gladiolus bed. They may be grown in any soil fit for a garden, and require not more care than Potatoes, not as much, in fact, as they are not troubled with Potato-bugs. The bulbs—or corms properly—are nearly hardy, and may be planted as early as the ground can be worked. If a continuous bloom is desired, additional plantings should be made every two weeks, up to July, which latter planting will produce flowers late in autumn until killed by hard frosts. Gladiolus bulbs should be planted four inches deep, in ordinary garden soil, and not less than six inches in light, sandy ground. Deep planting enables them to withstand drought and keeps their stalks erect without the use of stakes.

CITY YARD-GARDENING.

Dwellers in cities would like to grow a few flowers in their little back yards, and frequently try. Quite often they fail—not so much for want of space and sunlight, as for lack of knowledge of what can be made to grow in a small, shaded place. Given a plot of ground from sixteen to twenty-four feet in width, and twenty to forty in depth, with a six-feet board fence on three sides, and a tall house on the other, and the problem to be solved does not seem to be easy. The citizen, in such a situation, much as he may wish flowers, is apt to make no attempt to decorate his back yard. The principal ornaments are stray boots that have traveled from neighboring windows in search of musical cats, or the tomato-cans which Bridget has forgotten to place in the ash-box. Seeing the barren space in spring, he sometimes rushes to the florist's and brings two or three pots of plants home in his arms and enough seeds in his pockets for a half-acre, and is rewarded in due time with leafless plants, and a crop of weeds that smother his seedlings.

Yet it is possible to have flowers, and even shrubbery there, and it need not cost much money, nor too much attention. There is generally one sunny side, and against the fence there climbing vines do well, and there are flowers suitable for a narrow border; while, on the shady side, there are plants that prefer shade to an excess of sunlight. A barrowful of manure from the nearest stable, and another of street dirt, may be dug in during autumn, and the ground, if re-dug in spring, will be in good order. For the matter of that, there are plants—the Dwarf Nasturtium and the Joseph's Coat, for instance—that do better in poor soil, and sulk if they be pampered.

A little wire fastened to nails on the sunny side of the fence will hold a Clematis (*C. Jackmanii* is the best) that will give you a fine show of bloom. With strings you can have the airy, fiery-blossomed *Quamoclit digitata*, which the catalogues, to strike terror into the soul, parade under the sonorous title of *Ipomœa Quamoclit coccinea hederæfolia*; or you can regale your eyes and nose with mixed Sweet Peas, that, by removing the blossoms for the house, will bloom nearly the whole season. In the border at their base you may have a bed of Scarlet Phlox, or *Phlox Drummondii*, or one of Pansies, easy of culture and profuse in bloom. If you use Pansies here, though, the ground must be rich, otherwise they must go on the shady side. Amid these you may have a few Gladioluses—not Gladioli, if you please, for the word is Anglicized as much as omnibus.

If you prefer ribbon-gardening on a small scale, use the bright blue Emperor William Pansy on the inside, and border with *Sanvitalia procumbens*; or, if the ground be poor, use red Nasturtiums, and border with white Candy Tuft. Or you may have a nice bed of honest Pinks—*Dianthus Heddewiggii*—that are trustworthy, and will bloom a long while if not allowed to go to seed. Or a row of *Delphinium formosum* next to the fence, and Verbenas outside, will please you. Or you may get from the florist's, if your ground be in good order, enough Tea-roses, small two-and-a-half pot-plants, to make a gay bed. They will not begin to flower before July, probably, but they will keep at it till frost stops them. But, whatever you do, do not belittle your border by too many kinds. Choose not more than two or three sorts, and have plenty of those "in their little beds."

The shady side can have its flowers, too. There is the perennial Phlox. The old sorts had but two colors—one white, and the other a dingy lilac pink. Nowadays they run from white to fiery scarlet, through all intermediate shades, and have great trusses of bloom. Then there is the Alkanet (*Anchusa Italica*), which does not dislike shade, and has fine blue blossoms, but it does not flower long. The old Japanese Spiræa (*S. palmata*) flourishes best in shade. The green and cheerful Periwinkle does well there, and will take possession of the ground if you permit. So will the Tradescantias; while the Lily of the Valley does not care much for sunbeams. The old-fashioned Rocket will grow there; in fact, it will live and bloom anywhere, and in any soil, from that of a manure-heap to an ash-pile. If you can afford it, you may have hardy Azaleas and Rhododendrons on that side. Choosing them, you must prepare the soil first.

Get your milkman—if you have a milkman from rural parts, and not a partner of the town-pump—to bring you, some fine morning, a bag or basket of leaf-mold, and on another, the same amount of peat from a swamp. Dig your border two feet deep, and mix the leaf-mold and peat well with the soil before you set out your plants. If your purse do not protest, you can have on that shady side a row of Fuchsias and another of fancy Caladiums, that will excite the envy of your bachelor neighbor looking down from his second-story back.

Up close to the house, by removing two square feet of the paving, digging out and filling deep with good soil, you may have a climbing Rose—that is, if the back faces to the south or east. Or, if you prefer, a Japanese or Belgian Honeysuckle may go there.

Where the center of the yard can be spared from laundry operations, *and gets the sun all day*, a bed four feet square will hold a tall Dahlia, supported by a stout stake, or a Canna Marechal Vaillant, or Nigricans, surrounded by Coleuses (*C. Verschaffeldtii* is best) and bordered with Golden Pyrethrum, or the old-fashioned Dusty Miller (*Centaurea gymnocarpa*).

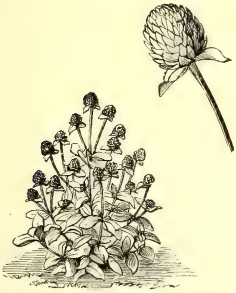
If you wish for something very fine, dig a hole eighteen inches square and two feet deep in the center, fill in with stable manure, and tramp down to one foot, then cover with soil. In the middle of May plant in this an Abyssinian Banana (*Musa Ensete*), and around it, on the edge of the bed, variegated Coleuses. When you get the plant, you will think the florist has sent you a poor Canna. Do not despair. Give it a pail of water (weak manure-water preferable) every night—and a big pail at that. Before the close of summer it will throw out its huge leaves four feet in length, and grow to eight or ten feet high, while you will bring your friends to gaze at it, and wonder at your skill.

All the preliminary knowledge you want you will probably find in your florist's catalogue, or on the packets of flower-seeds; and as your horticultural knowledge increases, you can further improve your little territory.

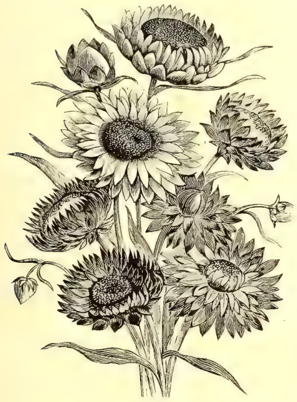
T. D. E.

EVERLASTING FLOWERS.

The Everlasting (or, as they are more commonly called, *Eternal*) Flowers are attracting considerable attention at the present time, on account of their beauty in the flower border as well as their use and value for winter decoration. As they retain their form and color for several years, they make, when mixed with a few ornamental grasses, very pretty bouquets, baskets, wreaths, etc. In the flower border during the summer season they are, when well grown, remarkably attractive, and, on this account alone, well worth cultivating. In addition to these useful qualities, several of them are valuable for bedding and massing, equaling in effect some of the best ribbon plants.


GOMPHRENA.

In order to preserve the flowers of Everlastings, it is necessary to pay some attention to the time of gathering them. The flowers, with the exception of the Gomphrenas, should be gathered before they are fully expanded, and hung up in a dry, dark closet until they become perfectly dry. They require to be tied in small bunches, so that they will not mildew and that the stems dry straight.


HELICHRYSUM.

To cultivate Everlasting Flowers so as to obtain satisfactory results, it is absolutely necessary to give them sufficient room in the flower border to properly develop themselves; and in order to guard against drought it is also necessary that the soil should be both rich and deep. To effect this object, the flower bed or border should be dug over to the depth of at least two feet, and a good portion of well-rotted manure or leaf-mold thoroughly incorporated with the soil.

Acroclinium roseum and *A. roseum album* are two very pretty and distinct varieties, the former being of a bright rose color and the latter pure white. This species is of strong growth, attaining a height of about two feet, and produces a great number of daisy-like flowers with a yellow center. To preserve the flowers of the Acroclinium with a bright center, they should be gathered the first day they open.

The wing-stalked *Ammobium alatum* is one of the most distinct as well as the hardiest of the Everlastings. The plant grows over two feet in height, and the stem is stiff and angular in appearance, the pretty little flowers being of a pure white color. A new variety, *A. alatum grandiflorum*, with flowers twice as large as those of the original species, is one of the novelties of the present season.

The Globe Amaranthus, *Gomphrena globosa*, and its varieties grow about two and a half feet in height, and are, when well grown, among the most handsome and showy Everlastings. The flowers of the Gomphrenas should not be cut before they are of full size, but they must not be left until the lower scales commence to drop off or become injured. The Gomphrenas are also valuable for massing on the lawn, and, if arranged with regard to the color of their flowers, present a highly attractive appearance. They also possess the desirable quality of standing our hot, dry summers without injury, and as the flowers are produced in the greatest profusion from June until frost, and remain in perfection for two or three weeks, I do not think that more can be said in their praise.

Helipterum Sanfordii is an extremely graceful and pretty species, of dwarf branching habit, growing about one foot in height, and producing its rich golden yellow flowers in clusters. *H. corymbiflorum* is pure white. The flowers of this genus require to be cut when the heads are about opening, as they expand during the drying process. They retain their color and brightness for years.

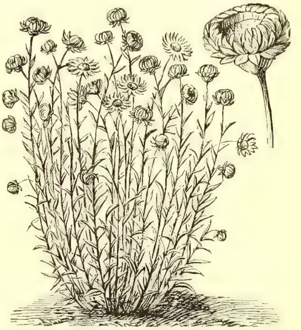
The *Helichrysums* form exceedingly useful ornamental plants for the mixed border. *H. monstrosum fl. pl.* grows about two feet high, the double flowers being large and showy, and of various colors — white, yellow, purple, and rose, with their various shades. *H. elegans* and *strictum* grow about a foot in height; they are of branching habit with elegant silvery foliage and yellow flowers, somewhat resembling Immortelles.

Rhodanthe is another very graceful genus of compact growth, producing its neat and pretty flowers in the greatest profusion. *R. Manglesii* is a most beautiful and delicate species, but unfortunately does not often succeed in the flower border. *R. maculata* is a more hardy and robust species, and is perfectly at home in the flower border. It is of a rosy purple color, with a bright yellow center. *R. atrosanguinea* has dark crimson flowers with a dark violet center, while *R. atrosanguinea alba* is pure silvery white.

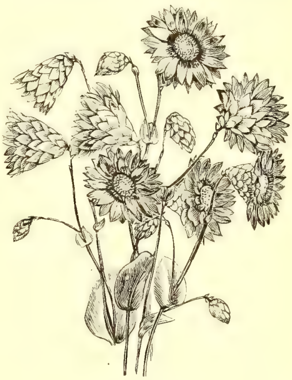
The *Waitzias* are also pretty Everlastings, producing their flowers in clusters. *W. grandiflora*, yellow, and *W. corymbosa*, red, are the two best kinds. The flowers should be gathered early, as the center soon becomes discolored.

The *Xeranthemums* are remarkably free-flowering Everlastings, of neat, compact habit, growing about one foot in height, with silvery white leaves, and producing their flowers on long stalks. *X. album*, white, and *cœruleum*, blue, are the two most distinct sorts.

The seeds of the Gomphrenas do not germinate freely unless sown in heat, and the cottony coating with which they are surrounded removed. These, the Helichrysums and the Ammobiums, should be sown thinly in a shallow box of light soil about the end of March or first of April, and covered lightly. As soon as the plants are strong enough to handle they should be transplanted into other boxes and kept close until well established. The seeds of Acroclinium, Xeranthemum, Rhodanthe, Waitzia, and Helipterum can also be sown in a similar manner about the middle of April; they all require a treatment similar to that advised for Gomphrenas as regards transplanting, etc. When they have become well established, after being transplanted, they should be removed to a cold frame and gradually exposed to the open air, and planted out in the flower-border when all danger of frost is over.


XERANTHEMUM.

The seeds can also be sown in a cold frame in April, or in the open ground on a well-prepared border in a sheltered situation after the tenth of May, and the plants removed to the flower-border when strong enough. When sown in a cold frame they require to be transplanted into boxes or other frames before they are removed to the open air.


RHODANTHE.

The *Gomphrenas* form an exception to this rule; they require heat, and should be sown as directed above.

Chas. E. Parnell.

Lawn and Landscape.

HINTS ON LAWN PLANTING.

The most attractive feature of a rural or suburban home is a nice, well-kept lawn. No matter how unpretending the dwelling, the lawn, if judiciously planted and well kept, is, especially in spring and summer, not the least charming and attractive feature of the whole. Ideas and tastes respecting this feature of landscape gardening, are as diverse and varied as they are regarding the clothing and ornamentation of our bodies, and often with as little regard for "the eternal fitness of things." It is a subject on which there is, and ever will be, a wide range of opinion and practice; but to my view, no lawn worthy of the name will be without its smooth, close-cut, lovely green carpet of grass. This should be as large as the size of the grounds will admit, and as little unbroken by promiscuous tree-planting as consistent.

The tree-planting should be confined to the corners and sides of the lawn, leaving an unobstructed view from the dwelling to the street. Tall-growing Evergreens are only admissable on the extreme outskirts of small lawns, to act as wind-breaks, to form backgrounds for the smaller deciduous shrubbery, and serve as framework for the pictures they are designed to surround. Beds of flowering shrubs, Rhododendrons, Azaleas, Roses, etc., should also border the lawns, leaving the field of grass intact as far as possible, so that the lawn-mower can perform its office with the least possible hindrance. If for any reason the domain of the lawn proper must be invaded by trees, these should be only of the rarer and choicer kinds of moderate growth, such as Magnolias, purple and weeping Beeches, Kolreuteria paniculata, Salisburia adiantifolia, etc.

The practice very much in vogue a few years ago, of planting lawns thickly with promiscuous trees and shrubs in an indiscriminate manner, is not as popular as it was. People seem to realize that a close-cut grass lawn, surrounded with a limited quantity of well selected trees and shrubs, is quite as attractive, and far less troublesome and expensive to keep in order.

It seems to be one of our national traits to go to extremes, and the æsthetic landscaper, professional or amateur, is no exception; his love for trees and shrubs is so extensive, that in grounds of limited extent he is very apt to crowd and overdo the matter—an error he does not consider or discover till the growing and spreading trees crowd each other and demand a change.

The larger the grounds the better the opportunity for the planter to exercise his skill and gratify his desire to possess a large number of his favorite and desirable trees; but in grounds of limited dimensions, there is the greater necessity for wise and discriminating judgment to secure the best results, and the desires and inclinations conflict so frequently with the space at one's disposal as often to render the task a difficult one. Observation, and a little judicious reflection as to the future growth and development of the trees and plants used for lawn decoration, will enable any planter to avoid many of the common errors so frequently witnessed.

E. WILLIAMS.

THE HAWTHORN.

(Cratægus.)

This distinct and interesting genus is deserving of far more attention than it has generally received. If nature be taken as a guide in the effects produced by the employment of different varieties of trees in adorning and individualizing sylvan scenery, the Hawthorn will stand among the best types of arboreal picturesqueness and a certain boldness of beauty. Among ornamental trees it should be accorded a high rank; as an English enthusiast observes, "it brings the fragrant breath of summer—the purity, freshness, and perfume of a real June day." No less on account of its beauty of bloom, however, than for its other many valuable characteristics, should it receive acknowledgment as an important factor in landscape adornment. All of its many varieties are perfectly hardy, thriving in almost any dry soil. In general they produce fine-shaped, low trees, occupying comparatively little space, and whose wealth of green foliage and compact heads form most pleasing objects, the tree being scarcely less attractive during winter in its rugged picturesqueness of naked lines. The flowers are conspicuous, of varied colors, from white to crimson, the single varieties especially possessing a fine aromatic perfume.

During autumn and early winter, when the beauty of most deciduous trees remains only as a memory, most of the species stand out in brilliant array, covered with bright red and yellow fruits. Many garden birds remain as long as the berries are plentiful, and on the fruit of trees skirting woodland, the grouse and other birds are in the habit of feeding in the fall. In addition to its other qualities, the Thorn is of much value for its wood, which is almost equal to that of the much prized Box, and is even finer in color. No more advantages can be enumerated for any other genus of ornamental trees. The blooms of the double flowering varieties, together with the single scarlet and pink, are very desirable for decorative purposes. They are also fine objects for conservatories, forcing well and flowering finely. For this purpose the Hawthorn has also been unjustly neglected; and by utilizing it florists might add largely to their store and variety of valuable flowers.

Among native varieties the scarlet fruited is particularly worthy the attention of the landscape gardener. On our own grounds we have a large tree of this charming variety upon which, perhaps, a hundred summer suns have shone, which nature kindly planted in a corner of a line fence. No tree in our arboretum is more admired when in bloom or in fruit. The flower is large, of a pure white, the berries flashing a deep scarlet, and being quite pleasant to the taste.

The double varieties I have referred to—Paul's Double Scarlet, the Double White, and the Double Pink—are all European sorts of the *Cratægus oxyacantha* type, and are specially recommended for small town gardens, as well as for large lawns and parks. These are all profuse bloomers, covering the trees with miniature Roses.

The English, appreciating the beauties of the Hawthorn, employ it for hedges more than any other material; and any one who has traveled through English lanes in the flowering season will remember with after-delight the pleasing impressions to sight and smell. Most of the American species are of more robust growth than the European, and therefore better adapted in our climate for hedge purposes.

The Cockspur Thorn, which is widely distributed over the Northern and Middle States, is one of the most vigorous growers, and, if planted in good soil and well taken care of for the first few years, will make an impenetrable barrier for animals.

It does not take up as much room as the Osage Orange and Honey Locust, and can be kept under control with the shears. The Thorn is also more lasting than either of these commonly employed hedge plants, besides being easier cared for, and more ornamental on account of its beauty of flower and berry.

Some of the most distinct varieties in the very large list that have come under my observation are herewith presented, without adding any particular description which may be found in the Ornamental Catalogues. It may be stated that the most ornamental are the double varieties previously referred to, and which I place at the head of the list, as deserving the very highest commendation:

Double Varieties.—Paul's Double Scarlet, Double Red, or Superb, Double White, Double Scarlet.

Single Varieties.—Gumpper's Variegated Scarlet-flowering, Pink-flowering, Common White, Variegated-leaved, Scarlet-fruited, Douglass, Azarole, Glossy-leaved, Hybrid Smooth-leaved, Black-fruited, Tomentosa, Oriental, Parsley-leaved, Cockspur, Tansey-leaved, Pyramidal, Maple-leaved, Medlar-leaved, Apple-leaved.

While the double-flowering varieties may, perhaps, be chosen in preference for single specimens where space is limited, the various single varieties are almost equally deserving a place in larger collections where the space will admit. As to choice among the many excellent sorts, this may best be left to individual taste.—*George Ellwanger, before the Western New-York Horticultural Society.*

WALKS IN LAWNS.

In most ornamental grounds there are too many walks and roads. To keep walks neat and clean through the year costs often more than their original construction and the care of the entire grounds. Roads without any actual or apparent object or use are an anomaly, and mar the harmonious effect of a landscape.

Main roads which are much traveled, and which connect the principal buildings of a place with each other, should not unnecessarily deviate much from a straight line, as utility is their first object. Walks leading to the minor objects of the grounds are more pleasing to the eye when winding in graceful curves, but even here an object or obstacle must be or should be made apparent for every turn. This may be a tree, a rockery, an elevation in the ground, or a group of shrubs, all of which will produce a better effect for thus being suddenly brought before our view by the turn in the path.

In laying out walks through pleasure-grounds, another leading consideration should be to place them so that in passing over them all the most interesting objects of the place and the most extensive vistas are successively brought into view.

The Window Garden
AND GREENHOUSE.

IVY AS A HOUSE PLANT.

Whoever has visited Europe has beheld with admiraion the Ivy at its home. House-walls are clad in Ivy, and a cosy, homey look it gives to many a building. The church, the castle, and the cottage invite its presence; it revels on the crumbling ruin, and no ruin appears an interesing ruin unless draped with Ivy. It also spreads upon the ground and forms a carpet to the shady wood, lays hold upon the trees within its reach, climbs high the trunks of Oak and Ash, and clothes them every inch. But our American climate denies it the unrestrained luxuriance it enjoys in Europe. As an out-door plant, we use it to cover rocks and walls of masonry that are sheltered from drying winds and warm sunshine, and likewise as an evergreen border in place of Periwinkle or sometimes Grass. In a sunny exposure it is not apt to thrive well because of the direct sunshine and drouth, but in somewhat shaded situations it may live unhurt for years.

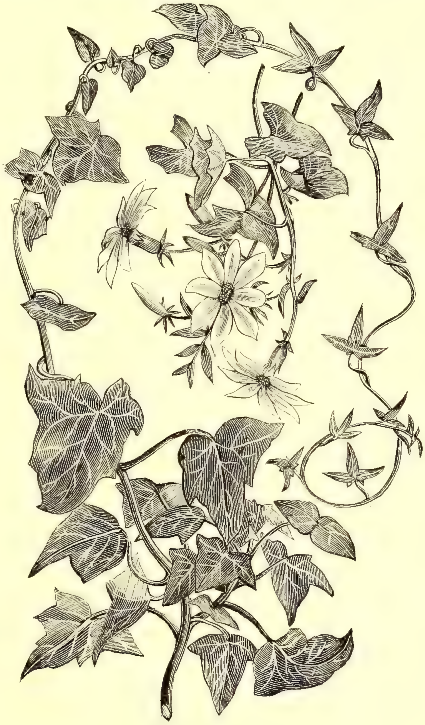
But it is as a house plant that the Ivy is most esteemed with us, and justly, too, as it is ever-green and cheerful, thrives well in heat or cold, in light or shade, in sitting-room or cellar. Kept in a shady corner of the room, we may extend its friendly wreaths around our picture-frames, or train them where we will and they resent it not; dust does not affect them badly, for we can wash them clean again; they heed the parching breath of furnace or of stove less than do most other plants except Cactuses; that is, if they are well watered at the root, for an Ivy should never be allowed to get dry. Although under favorable conditions they may bear with impunity some 30° to 40° of cold, a sudden and considerable fall in temperature may affect them injuriously.

They are easily propagated from cuttings at any time. They like a rich, open soil, and rather than shift them into larger pots each succeeding year, you may pick out a good deal of the old surface soil and replace with fresh earth. In the summer time, if you do not want to keep them in-doors, you may set them outside on the piazza, or plunge their pots in the earth in a shady part of the garden, and see to it that they get lots of water. Or if you live in the city, where you have no outside garden, you may set your Ivy in a window-box and let it droop down over the wall like a mantle, for in an upright or downward position the Ivy seems to grow equally well. If you winter it in the cellar, keep it in a cool cellar if practicable, but cold or warm, never let its roots get dry.

Ivy sometimes gets overrun with scale, and the only remedy for this is assiduous and repeated washings with soapy water and a sponge. So long as any scales are left so long will they increase in numbers. Dust and dirt of that sort may be washed off with water applied forcibly by the hose or syringe, especially if the leaves have been kept wet for some hours before they are hosed; but no amount of hosing will remove the scale.

If your Ivy is sick, cut it back considerably, turn it out of its pot and remove most of the old soil, then re-pot it into a smaller pot, well drained, and in fresh soil. Applying artificial fertilizers to an unhealthy Ivy is merely hastening its death.

Cut-off sprays of Ivy are useful in floral decorations, and last a long time in good condition, and some pretty wreaths and other ornaments are made from Ivy leaves. Shoots of Ivy cut off and put into bottles of water, as we often do with Wandering Jew, root in the water, and live on and grow.



THE NEW GERMAN IVY.

There are many kinds of Ivy, but the Ivy we cultivate in our houses is, as a rule, the English Ivy (botanically known as *Hedera Helix*) and its varieties. Of these varieties there are broad and narrow-leafed forms and kinds whose leaves are banded, spotted, and blotched with silvery white and sometimes tinted with rose.

Besides the true Ivies, we cultivate several other plants also known as Ivies; for instance, the Coliseum or Kenilworth Ivy, a delicate little Toadflax, which should be hardy in the Middle States, and of which there is a beautiful variegated form; the Ground Ivy, a creeping herb nearly allied to Catnip, and a good plant to grow as a carpet among ferns in a shady rockwork; the German Ivy, so well known as a rampant growing house-plant for winter, and as a vine in vases in summer; the Virginian Ivy, or Virginia Creeper, so abundant in our woods, and so favored in our gardens as a fast-growing screen or drapery; and the Japanese Ivy, which clings to walls of wood, or stone as closely and tenaciously as does English Ivy, but it is deciduous.

Wm. Falconer.

CARNATION GROWING.

Carnations are generally considered as among our most profuse blooming house-plants, but during the last winter professional florists as well as amateurs have had just cause for disappointment in this respect.

Mr. John Reid, an experienced Carnation grower, ascribes the cause, in a paper read before the New York Horticultural Society, to general debility. He says:

"For many years the different varieties of Carnations have continued to reproduce themselves, and at the same time flowering almost incessantly, and I ask is it any wonder that the plant is weak and exhausted? It gets no rest summer or winter, and the heat and drought of last summer seemed especially designed to end its existence; but it still lives, although in a very weak and exhausted condition.

"In my opinion, what it needs most to restore it to at least some of its former health and vigor is rest. To give it as much of this as possible I would, about October 1st, lift from the open ground, and plant in six-inch pots, as many plants of each variety as would be necessary for stock purposes, taking the precaution to remove all flowering wood from them; then place in a cold house or pit, there to remain until about February 1st when I would proceed to propagate them in the usual way. When rooted I would place them in boxes in a moderately-heated house until thoroughly established; then remove them to the cold house or pit, there to remain until planting out time, which should be as early in the spring as the ground can be worked properly.

"In the fall, at the proper season for removing them to the houses, they should be potted in soil composed of three parts well rotted sods and of one part decomposed cow manure, thoroughly mixed together. Great care should be taken in watering them, as they will grow and flower better when the soil is kept only moist than when it is soaked with water; and on bright days I would recommend a thorough syringing. Keep your Carnation houses cool. The plants will produce more and better flowers at a temperature of 45° by night and 55° by day than if kept at a higher degree of heat. It is only on extremely cold or stormy days that my Carnations do not get air for at least three or four hours.

"There may be other methods to attain the same result, but I feel certain that a few years of this treatment would produce healthier and better plants."

Foreign Scenery.

THE WILD FLOWERS OF PARA.

SECOND PAPER.

The Estrada of St. José is a wide avenue running from the Largo (square) of the palace to the Largo of St. José. It is about half a mile in length, and is planted on each side at intervals of about fifteen feet with the Royal Palm *(Oreodoxa regia).* These trees are now very tall, and the effect of the heavy columns or shafts capped by the immense crown of heavy, dark-green foliage is very imposing. The flowers of this Palm are very small, whitish, and are produced in immense numbers from a huge spathe which projects just below the lower leaves; the fruit is black, and about the size of a very large Whortleberry. Some of these trees are always in bloom, and the great brush-like plumes of blossoms add not a little to the beauty of the tree. Let us walk up this grand avenue, and if we can turn our eyes away from gazing up at the Palms, we shall find much to attract our notice.

The houses are not usually close together; there are many yards and often spaces of uninclosed ground, where wild flowers grow in profusion. On our left is a high wall, leaning over which is a mass of palmate foliage with spikes of thorny seed capsules. It is the Castor-oil Bean *(Ricinus)*, which here in a few months attains from seed the dimensions of a tree. Although when the plant branches it loses much of its effectiveness, it is always noticeable; it grows in all waste places, on rubbish heaps, and by the road-side, and as the predatory goats which run loose in the streets always avoid cropping it, having a wise disinclination to physic themselves, it often attains considerable dimensions, and, from the crop of younger plants from self-sown seeds, soon forms thickets. The growth of the top is, however, in disproportion to the root, and a moderate wind is sufficient to topple over the plants, so one seldom finds plants of any great age. There is but one species here, that with glaucous green leaves, and a very small, light-colored bean; the large fruited varieties would succeed equally well, and would be of economic value. The Brazilian name is *Mamona.*

Many of the fields on either side of the road are fenced by tall, pointed stakes driven deep into the ground. These tall fences, rough and unsightly as they are at first, become in a few months very beautiful from the masses of climbing plants which cover them, often wholly concealing them, and forming a wall of verdure.

Prominent among the climbers are the different species of Morning Glory *(Convolvulus* and *Ipomœa)* with allied genera. These are both annual and perennial, the former growing rapidly, and in a few weeks producing a wealth of flowers; then as the so-called dry season approaches (if there can be a dry season in a climate where it showers four days out of five all the year round, although these are never what are called rainy days in the United States), they ripen the seed and die. The perennial species are of two classes, both forming large tuberous roots, but the one produces annual stems which having flowered wither away, while the other forms a woody vine, the trunk of which often attains considerable dimensions. In our wanderings in the Amazonian valley we have admired these plants more than any others. They grow in the various species in every soil, some in the rich "vergia" land, where the black alluvial soil is of unknown depth, others on the skirts of the woods of "*terra firma*" (land not subject to annual overflow), and others again on the sandy "campas" (plains), where they twine around the thorny stems of the scrub Tucuma Palms, or often overtop the crown and hang in gay festoons almost to the ground. In color, dark blue is wholly wanting, as far as we have seen, and light blue is only found in an annual species which we have only noticed here in Para. Yellow, also, is only supplied by one of the allied species, a perennial of very strong growth, with clusters of bright flowers not very large; this plant, though common in Para, we have never seen elsewhere.

The chief colors are white, pink, lake, and white with deep wine-colored throat, but there are many species all unlike in color and size, so that there is no lack of variety. One other Ipomœa deserves a passing mention, a night-blooming species with immense white flowers, with well-defined pearly stars in the center. These great flowers, often four to six inches in diameter, open just before sunset and close soon after sunrise; all night they diffuse a delicious perfume, sometimes when many are in bloom together too powerful to be pleasant at close quarters. The Brazilian name for this plant is "*Amor do Homem,*" or "Man's Love," what it is botanically we have not ascertained; it belongs to the section that produces tuberous roots and annual stems, but as these stems are shooting from the root all the time in this climate, the plant is virtually a perennial always in bloom.

A familiar flower, which we often meet on the roadside, is the *Lantana.* The only species, however, which we have seen wild is that with small pink flowers. It forms a rough, ill-smelling bush, and making one's way through a mass of it is not pleasant. The plant is more attractive from the numbers of bright butterflies which always hover over it than for any great beauty of flowers. The yellow and orange species we have not seen wild, but as from plants in our garden we have seen seedlings at some distance, evidently carried by the birds which are very fond of the berries, there seems no reason why the roadsides should not have an orange-colored *Lantana,* which may in time, as its growth is very vigorous, become a most unwelcome intruder on cultivated grounds.

But what is this, covering the branches of that large Orange tree before us, and with the profusion of its white flowers almost hiding the glossy foliage and golden fruit? It is a true parasite of the Mistletoe family, and by its profusion bids fair to kill all the Orange trees, if the people here, as is usually the case, are too lazy to remove it. The leaf is lanceolate, dark green, the flower resembles that of the Madeira Vine, and if one can forget the mischief the plant does, is very pretty. The Brazilians call it "Herva dos Passaros" or "Bird Plant," because the birds are very fond of the black berries and sow them in every direction upon the branches of the trees. The seed is viscid and clings wherever it touches, germinates rapidly, and the plant soon attains a large size. It is very beautiful when in bloom, the large, slender branches heavy with flowers, sometimes wholly concealing the tree, but it is death to the tree from the sap of which it draws its life. It is not peculiar to the Orange tree, but is found also on the Mango, the Sapodilla, and other fruit-bearing trees; and on the middle Amazon it grows in abundance on the outskirts of the forests; but the Orange tree seems a favorite, and there is scarce an orchard in Para which does not show trees dying from this plant. When the tree dies the parasite dies also, for this plant does not, like many other plants here, first establish itself on the tree, and having exhausted it, then make roots for itself, establish a connection with the soil, and begin a separate existence.

In a garden on our right is a huge Mango tree hanging full of the misshapen fruit; but what is of more interest to us is the numbers of pineapple-like crowns which cluster along the branches. These are *Tillandsias* of various kinds; some are very large in diameter, more than four feet, others are tiny little fellows, with close-set leaves. All that we see are bright green, with long wands of dull green whitish flowers, but many of the species are very showy, the leaves being gray or marbled, and in some the flower-bracts are scarlet and crimson. We remember one enormous plant we once saw in Peru, the flower-scape of which stood six feet high, the bracts were scarlet, the flowers purple, and all parts of the stalk were powdered with white and shone like frost. There was but the one plant; not a seedling could we discover, and reluctantly we left the plant, which was more than two men could lift, and a good load for a canoe.

The variety of these Tillandsias is endless; we have seen the forest path bright with them, where on one side the full light could enter. They seldom grow in the shade, but generally in the full blaze of the sun. The gray and variegated leaved species, with drooping crowns, are, however, more fond of the shade. Wherever found, they are noticeable, both in foliage and flowers. We often see them on balconies in the city, they having been brought in from the woods, and even in such an unfavorable position they preserve their freshness for many months.

E. S. RAND, Jr.

THE LILIUM AURATUM AT HOME.

The "Queen of Lilies" is thus described by a correspondent of the *Gardener's Chronicle:*

> "Coming from the south of Japan I saw for the first time the Lilium auratum, a little after passing the gate of Hakoni, three days before arriving at Yokohama. They were grown in fields, as our Onions are, and quite as close to each other. As the flowers were beginning to expand the sight was magnificent, and the scent overpowering. It was much later, and far north of Tokio, that I saw them wild, coming out of the margin of the natural shrubberies, generally with a single huge blossom, sometimes two, rarely three. It is no wonder we got at first notice such quantities of them, as the bulbs are a common article of diet with the natives, and are sold everywhere as a vegetable in the markets. I have eaten them pretty often, and rather relished them, as they are, when cooked, sweet, mucilaginous, and without any decided taste to make them objectionable to a newcomer."

Rural Life.

FARM LUXURIES.

It is something to be wondered at, that so many farmers' families are so blind to, or, rather, so willfully neglectful of, their opportunities to have and enjoy many of the physical luxuries of life. We often see homes about which no fruit-trees grow, and the garden, if there is one, is but little more than a patch of Potatoes and a bed of Onions, with perhaps a few forlorn-looking Cabbages.

This is not as it should be. Every farmer's home should have a garden, and that a good one. I have worked in the garden, and observed the results to be obtained from it, enough to be satisfied that at least one-third of the living for an ordinary family can be raised from a garden of half an acre. To do this, the garden must be properly attended to. You would not put in Corn and expect it to take care of itself. You cannot expect vegetables to do what Corn will not. You should see that the soil is rich enough to encourage and sustain a vigorous, healthy growth. You should work it up thoroughly when you make your beds. You cannot have it too fine and light. After planting your seed, you should see that all weeds are kept down. You can raise but one crop from your garden. If of vegetables, weeds must be destroyed; if of weeds, your vegetables must be given up. Of course you can grow something you may *call* vegetables in a garden partially overrun with weeds, but they will be hardly worth the name. To grow them in perfection, all the nourishment in the soil must be given them.

When you come to think out the list of vegetables that you can raise, you will begin to understand how much variety a garden can give to your bill of fare. Potatoes, Corn, Cabbages, Onions, Beets, Parsnips, Peas, Beans, Cucumbers, Tomatoes, Squashes, Lettuce,—is not that a goodly list? From half an acre, well worked, you can have vegetables every day through the season of them, and there will be a good quantity left for use during the winter. Such variety you would not think you could afford, if you had to buy them. The use of them, in combination with your other food, will be conducive to health. If you were to estimate the value of what you can raise in a small garden, and see how large a part it plays in the cost of a year's living, you would satisfy yourself that the garden pays the best of any part of the farm.

Every farmer should grow fruit for home use — Strawberries, Raspberries, Blackberries, Currants, Gooseberries, Grapes, Cherries, and Apples; quite a list, you see, and most people esteem the fruits of which it is made up as luxuries. The same is true of the vegetables which can be grown in the garden. And when to this list of fruits and vegetables you add fresh milk and cream, sweet butter and honest cheese, honey, chickens, and eggs, do you not see that the farmer has more luxuries within his reach for the gratification of his appetite than any other man can have? The wealthy man can buy what the farmer can raise, but he cannot have it in its freshness, as the producer can.— Have a garden.

EBEN E. REXFORD.

Horticultural Societies.

THE RIVERSIDE CITRUS FAIR.

Among the attractions of Southern California none claim more interest than their annual and semi-annual Citrus fairs, and conspicuous among these — a bright and shining light among them — is the Citrus Fair of Riverside.

That this young daughter, with her crown of golden fruits, should eclipse the Los Angeles mother, who, for many years, has worn her matronly crown of Orange blossoms, is doubtless a source of trial. We none of us like to be introduced by our own patronymic, and then listen to the addenda that we are the husband, wife, or daughter of some more distinguished individual. It really requires some extra stamina of character to smile gracefully at such introductions. But all this is just what bright, sunny Riverside, with her modern business-like way of dealing, with her Golden Apples of Hesperides, is doing to the olden, half-Spanish way of raising and marketing this queen of Southern fruits. The city housewife receives her supplies, carefully wrapped in tissue paper, from the former city, and certain well-known names reconcile her to paying an extra price, because Lemon-pies from this source are a certain success, and from the ordinary method of dealing in Lemons it may or may not be true.

These careful business methods have enabled Riverside to construct and pay for a fine pavilion, in time for the Fair of the current season; and have enabled the exhibitors, for the first time, to do themselves justice in showing their beautiful products. These were supplemented with additions from Pasadena, San Gabriel, San Diego, Orange, Santa Barbara, Pomona, and San Bernardino.

The best display of fruits from a southern county was generously awarded to D. McCray, of San Diego; the second to G. B. Adams, of San Gabriel. The finest display of budded fruit would naturally fall to Riverside, as so large a proportion of their young orchards are in the fine new varieties so popular with the fruit-loving world. The Riverside Navel has an enviable reputation, and a pyramid of these attractive fruits is a delight to behold. Of this variety there are two others, the Australian and Florida Navels, both of these undoubtedly originating in Bahia, Brazil, but inferior to the one brought to Riverside from Washington, much thicker in skin and coarser in pulp. The finer quality of this variety is a source of constant attraction at whatever fairs they are shown, and overshadow ordinary varieties in a most exasperating manner. The second place is quite unanimously accorded to the paper rind St. Michaels — a most delicate, thin-skinned variety, but smaller than the preceding. The third place is usually accorded to the Mediterranean Sweet, the Du Roi being considered only a synonym for the former variety. The fourth place is given to the Maltese Blood.

But Riverside boasts of other products, and not among the least of her fine displays at this attractive exhibit was her wonderful array of Lemons and Limes, the latter of the Acapulco variety, attaining nearly the stature of a well-grown Lemon, this sort forming the connecting link between the two fruits, hitherto conspicuously a missing link. The premium for the finest display of Lemons was accorded to P. D. Cover, as also that for best display of Limes. The favorite varieties of Lemons have hitherto been the Lisbon and Eureka, as giving the highest percentage of acid, and free from bitterness. This season the preference was given to the Eureka, as a higher attainment in both these regards. To bring the market price up to the Sicily Lemon is only possible when the poorer qualities shall cease to come into our markets.

It has been proposed as the only remedy to copy the plan of the wine manufacturers, and carry the war into the enemy's country by sending a cargo to market by way of Sicily for a time, and so produce a cure.

The first effect on entering the pavilion is to impress one with the reckless waste of splendid material, the lavishness, the tons upon tons scattered with a profusion only known among Californians. There were grottoes in whose plenishing were sacrificed loads of the golden treasure, temples of green and gold, whole cities, fairs in themselves. A lovely device was a Gypsy Camp Kettle, the poles made of threaded Oranges and the kettle covered in the same manner, the filling being delicious jellied Oranges. This was suspended by a wire, and the whole was trimmed with Smilax. The pyramid from Cover and McCoy, of only 30 Oranges but Brobdignagian in size, was wonderful. There were measurements of rivals for the premium, and one grew dizzy and incredulous at the same time to hear of 14x14, then 16x15, and, to cap the climax, 17x17. It was a relief to turn to the dainty little Sanguines and the luscious St. Michael of such modest dimensions. Think of juvenile dismay over a holding-place on such leviathans!

That unfortunate committee on the best Orange, what untold sympathies they deserve! How cordially one can hate a committee who fail to see our particular merits. Are they not fitting subjects for some future vendettas? The ingenuity of the one before us entitles them to a better fate, giving themselves two chances for life — a sort of Kilkenny-cat arrangement, setting the rival parties at each other instead of the committee. A premium for the best seedling, and one for the best budded variety. The former was taken by Mr. Cover. Mr. Richardson, of San Gabriel, came in for the latter, but, by the usual irony of fate, it was given for a Riverside Navel grown at San Gabriel.

It has been long ago said that Oranges enough were already planted to give ten daily to each individual in the United States. With the present supply, somebody is eating more than his share. The veteran Orange-grower, M. Sarey, gave the history of that fruit as belonging to Southern California in a delightful *résumé*, and other essays and poems were of a high order. The cleanliness of all the exhibits spoke volumes in their favor, and every effort will be made to avoid the depredations of the scale and other insects. Last year's raisins were shown, of fine quality, and silk-worms and cocoons, soon to be a power in the southland. Mr. Elwood Cooper's olive oil from Santa Barbara gave, as usual, no opportunity for competition, the crop always selling from one to two years in advance. Long live our cities' exhibitions and Riverside's beautiful homes!

MRS. N. W. WINTER.

BOOKS AND PAMPHLETS RECEIVED.

National Mining and Industrial Exposition.—Programme for the First Annual Exhibition at Denver. Will open August 1st and close September 30th.

Proceedings of Meetings held at New-York and London, to express sympathy with the oppressed Jews in Russia. Printed at the Industrial School of the Hebrew Orphan Asylum, New-York.

New York State Experiment Station.—A photographic view of the buildings and grounds of this newly established station, which, so far as can be gleaned from the picture, seem to be well adapted for their purpose.

Practical Floriculture and Landscape Gardening.—Synopsis of a course of Lectures delivered at the Ohio State University by *Professor Wm. R. Lazenby.* Also, Prospectus of a course in Structural and Systematic Botany.

Cheap Dwellings.—A series of neat and comfortable city and country residences, illustrated and described by carefully prepared plans and specifications, and accompanied by reliable estimates of cost. Published by the San Francisco Bulletin Company, San Francisco, Cal.

Fungi Injurious to Vegetation, with Remedies. *By Dr. Byron D. Halsted.* An address before the Connecticut Board of Agriculture.—The author gives a condensed natural history of Fungi in general, and treats specially, and with much ability and a thorough knowledge of the subject, Spurred Rye, the Potato Rot, Wheat Rust, Corn Smut, Onion Smut, Black Knot, Apple Leaf Fungus, Peach Curl, Grape Mildew, Lettuce Mildew, and Raspberry Fungus.

Proceedings of the Twenty-seventh Annual Meeting of the Western New-York Horticultural Society.—A condensed report of this interesting meeting was given in our February number. We were much pleased to receive, by the kindness of the excellent secretary, Mr. P. C. Reynolds, this complete report, in a handsome form, with all the papers and essays read during the session, many of which are of great importance and permanent value to every horticulturist.

Proceedings of the New Jersey State Horticultural Society, at its seventh annual meeting, held at Vineland January 11th and 12th, 1882—William R. Ward, President; E. Williams, Secretary. As most of the members of this society are practical and experienced fruit-growers, the discussions at these meetings are always noted for their practical and instructive tenor. The pamphlet contains, in addition to the minutes of the meeting, the Fruit List recommended for the State, and able papers on "Herbaceous Plants," "Bulbs," "Winter Protection," "Grafting Grapes," "Packing and Protecting Grapes," "The Sweet Potato," etc.

First Quarterly Report of the Kansas State Board of Agriculture—1882.—This volume has just been issued, and is a report of the condition of agriculture in the State up to March 31st. In addition to the regular crop and stock reports, the book contains special reports upon the subjects of forest-tree growing in Kansas, the raising and management of sheep in different portions of the State, a paper on the cultivation of tame grasses, and the usual meteorological summary for the quarter.

The report is for gratuitous distribution, and can be obtained, as long as the edition lasts, by addressing the Secretary, William Sims, Topeka, Kansas, and by inclosing the postage—four cents.

Ninth Annual Report of the New Jersey State Board of Agriculture.—A fine volume of 444 pages, full of valuable information, and creditable both to the Board and its Secretary, our esteemed contributor Mr. P. T. Quinn. The President, Mr. Thomas T. Kinney, gives in his address a comprehensive and clear *résumé* of the agricultural situation—of interest not only to the farmers of the State, but to every one interested in agriculture. The volume contains several papers of great value, among them Professor Cook's "Report on the Agricultural College Farm"; Dr. J. B. Lawes and Mr. H. Stewart on "Corn Culture"; the State Board of Health's "Report on Diseases of Animals"; "Contagious Diseases," by Dr. E. M. Hunt; "Milch Cows in West Jersey," by Silas Betts; "A Sussex County Farm," by P. T. Quinn; "Breeds of Dairy Cattle," by James Neilson; "Bee Culture," by J. H. M. Cook; "Silk Culture"; Dr. George B. Loring's address, and others.

American Pomological Society.—Proceedings of its eighteenth session, held in Boston September 14th, 15th, and 16th, 1881. This is the first volume edited by the new secretary, Professor W. J. Beal, Lansing, Mich., and the members of the Society, as well as all progressive pomologists, may be congratulated upon the excellent manner and extraordinary promptness with which it is published. These volumes have long since gained a world-wide reputation, and are everywhere prized among the most valuable contributions to pomological science. The one before us contains, in addition to a complete and carefully prepared report of the discussions and proceedings of the meeting, lists of the officers and members, reports of the State Fruit Committees and the papers read, the Society's "Catalogue of Fruits," showing at a glance the varieties of fruits best adapted for each State. This in itself constitutes a work of the greatest value to every one interested in fruit culture. These biennial publications are not for sale, but are printed for distribution among the members of the Society. Biennial membership is $4.00; life membership, $20.00, and any one may become a member by remitting this amount to the Secretary, which entitles him to this and as many of the preceding volumes as are still at hand.

The Rose.—A treatise on the Cultivation, History, Family Characteristics, etc., of the various groups of Roses, with accurate descriptions of the varieties now generally known, by *H. B. Ellwanger*, of Mount Hope Nurseries, Rochester, N. Y. Published by Dodd, Mead & Co., New York. It is with pleasure that we commend this neat and elegantly gotten up volume to every lover and cultivator of the Rose. The author, as one of the junior members of the famous firm of Ellwanger & Barry, has had unusual facilities for the practical study of his subject, which, as the work before us shows, he has most happily improved. Although many books on the Rose are already in existence, they are mostly compilations from foreign works, and there appeared to be a need for a comprehensive work, from the American stand-point, better adapted to the requirements of American conditions and climate. To fill this want has been the author's aim, in the accomplishment of which he has been remarkably successful. The Classification of Roses, which is generally so difficult to master by the amateur, is here so clearly explained that any one may become familiar with its mysteries. Position and Soil, Planting and Pruning, Manures, Insects and Diseases, Propagation, Roses under Glass, Raising New Varieties, etc., are all successively treated, closing with an alphabetically arranged descriptive catalogue of nearly one thousand varieties.

ANSWERS TO CORRESPONDENTS.

Squash Borers.—Prof. Tracy has found that a small piece of phosphorus placed in the ground, near the junction of the stem and roots, keeps the borers away. Some gardeners have used common friction matches to the same effect.

Chick-weed in Lawns.—*Capt. E. W., Deerfield, Mass.*—Unless the ground is very wet the Chickweed may be pulled out, the bare spots dug or raked up, and if deeper than the surrounding lawn, raised by carting on new soil. On this, Lawn Grass should be sown thickly and raked in. If this does not keep out the weed there is probably no other remedy but drainage.

Whitman's Fountain Pump. — *Subscriber, Hudson, N. Y.*—We have used this pump on our own farm for several years, and find it almost indispensable. If there was no other use for it than the washing of windows it would pay well to have one for this purpose alone, but it is very convenient in many other ways. A few weeks ago fire was discovered between the chimney and a partition in our house, and if it had not been for the timely use of this pump, which enabled us to throw water in the narrow fissure, the house would, in all probability, have taken fire.

Chufa.—*Z. W. I. M., Stony Creek, Va.*—Chufa, or Earth Almond *(Cyperus esculentus)*, has been highly recommended, a few years ago, as a profitable forage crop, and it is now cultivated to some extent in the Gulf States; but, in this latitude it did not come up to expectations, and is not worth cultivating.

Navy Beans.—*M. L., Red Wing, Minn.*—Beans do generally well on newly broken ground. They should not be planted before all danger from frost is over, in this latitude from the 10th to 20th of May. The 1st of June will probably not be too late for your State. It requires about one bushel of Navy or Pea Beans to sow one acre. P. T. Quinn's "Gardening for Profit" gives all the desired information about market gardening.

Abutilon.—*W. B., Jamaica Plains, Mass.*—Abutilons are of the easiest culture and need not more care than a Geranium. They are propagated by cuttings of half-ripened wood. If planted in sand, kept moist, moderately warm, and shaded they will strike root in a few weeks, when they should be transplanted in ordinary potting soil. Cuttings made in spring and kept in healthy condition during summer will produce flowering plants the following winter.

Large Onions.—*J. B. B., Hartstown, Pa.*—Giant Rocca and Giant Tripoli, both Italian varieties, are the largest Onions, but for market purposes we would not recommend to plant these more than for experiment. Large Red Wethersfield, Yellow Danvers, and White Globe are probably the best for your locality. Our March and April numbers contain an excellent and exhaustive article on Onion growing, from the pen of the veteran Onion grower, Mr. Wm. J. Comstock.

Manure for House Plants.—*F. S. W., Moorestown, N. J.*—A spoonful of fine bonedust or superphosphate of lime scattered on the surface of the soil and worked in lightly makes a good fertilizer. The Mapes complete manures are also valuable. A solution of a tablespoonful of Peruvian guano in a gallon of water, applied once a week, has an excellent effect on all kinds of plants. In all cases it is better to apply small quantities of fertilizers at intervals than to give all in one strong dose.

The Striped Bug.—*P. L. T., Proctorville, O.*—This insect pest seems to be on the increase in many localities, and proves very destructive to young Melon and Cucumber plants. A daily sprinkling of bonedust over the hills, from the time when the plants make their first appearance—and this is the most critical moment—until they are large enough not to tempt the bugs, has generally the desired effect. Watering with a decoction of Tobacco stems is also an efficient preventative.

Millet.—*J. A. F., Westbrook, Conn.*—German, or Golden Millet, is a valuable forage plant and makes good hay. In seasons of scarcity of hay it can be made to furnish a valuable supplement, as it may be sown as late as the middle of July and yield a fair crop. The seed is sown broadcast at the rate of half a bushel to three pecks per acre, and harrowed in. The best time to sow the main crop for hay is the latter part of May. If it is wanted for feeding green, several sowings should be made, similar to corn for fodder.

White Grub.—*E. M., Manistee, Mich.*—Neither salt, lime, nor plaster will drive away the Grub, unless applied in such quantities as to kill the Strawberry plants, too. The grubs are most numerous in freshly-turned grass land, and diminish after it has been cultivated a few years, as the female May-beetle, the larva of which the Grub is, does not deposit its eggs in plowed ground. Strawberry plants should, therefore, not be planted in ground that has not been cultivated during the two or three previous seasons.

Plant for Name.—*Mrs. H. B. S., Stamford, Conn.*—The plant sent is *Phlox subulata*, the Ground or Moss Pink, one of our prettiest spring flowers. It grows wild on rocky mountain sides and sandy banks from Southern New York to Michigan and southward, and is frequently found cultivated in gardens. Its dwarf habit, growing rarely more than six inches in height, forming dense matted tufts, and its profusion of starry pink and purple flowers with which it is covered in early spring, make it admirably adapted for edging.

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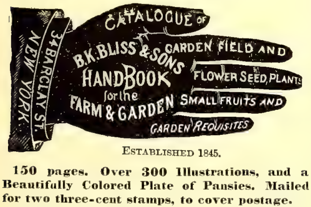

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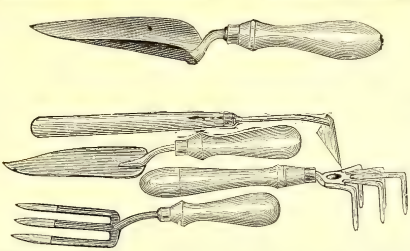

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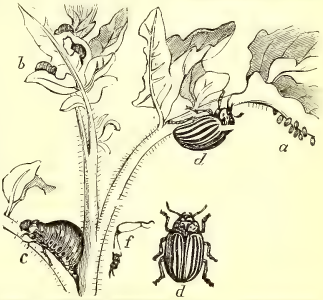

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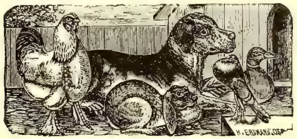
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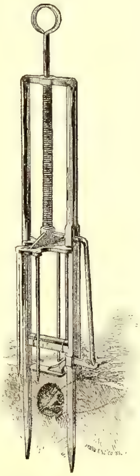

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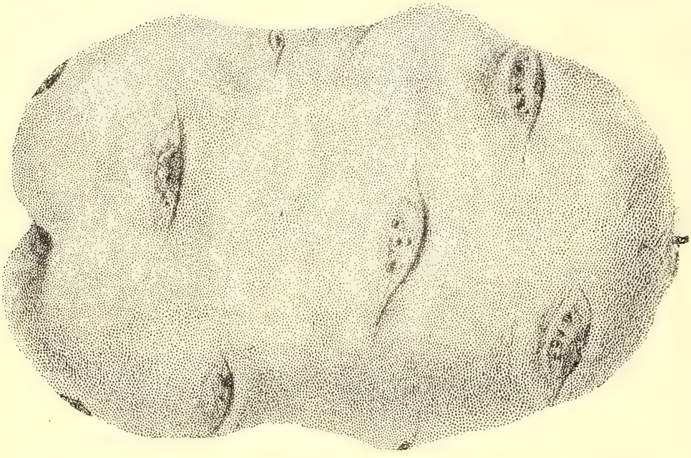

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At the request of the Secretary of the Royal Horticultural Society of London, we sent them last season specimens of this, with several other of our most popular varieties, whose productiveness and cooking qualities were thoroughly tested. The Committee report as follows:

"We hereby certify that the council of the Royal Horticultural Society of London, upon the award of the committee, have presented a first-class certificate to Messrs. B. K. Bliss & Sons, for Potato QUEEN OF THE VALLEY, exhibited at a meeting held on the third day of November, 1881. Signed,

"HENRY J. VEITCH, Ch'n.
"A. F. BROWN, Sec'y."

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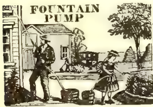

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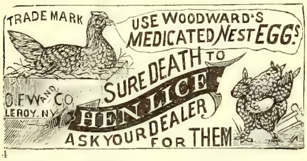
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OF SUPERIOR QUALITY.

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For sowing all kinds of small Garden Seeds with accuracy and dispatch. It is easily operated by a lady or a child of ordinary intelligence, with a little practice.

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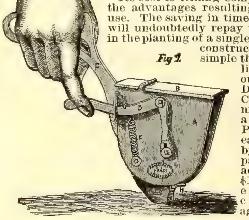

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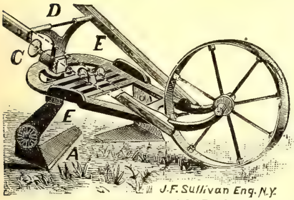

It will do the work of 8 men with the common hoe. Embraces all points requisite to make a capital tool. The Handles can be raised to suit. Knife Blades set to any pitch, and from 7 to 16 inches in width, and when in working order is firm and strong, with nothing to become loose or shaky. This implement has not only given entire satisfaction, but is pronounced unequaled by all who have given it a fair trial. For the interest of all we can safely say that no one will ever regret having given it a thorough trial. For Onions, Carrots, Beets, and all Garden Crops, it has no equal. It has, in a short time, become the leading Tool in this and other countries. To show our confidence in this excellent tool, we will refund price paid if satisfaction is not given with its work—purchaser paying freight to and from. Leading Gardeners and Seed Growers all use it, and would not do without it. For sale by the following:

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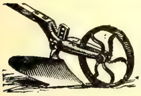

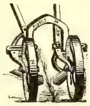

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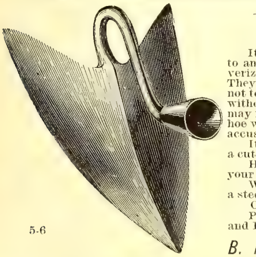

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It is perfectly adapted for Field, Nursery, or Garden. Is *superior* to any other hoe at all work for which a hoe is intended, such as Pulverizing, Planting, Hilling, Weeding, Scraping, Chopping out, etc. They are made of *Solid Cast Steel, with Trowel temper*, and warranted not to break with fair usage. No farmer or gardener can afford to do without them, and spend their time and strength on the old hoe. You may not like the looks of them at first, they being so different from the hoe we have been using for thirty years; but use it until you become accustomed to it, and twice its cost will not get you to do without.

It has two sharp edges on either side, extending to the point, making a cutting surface of 16 to 18 inches.

Has a *draw cut* on the principle of a scythe, or as you would hold your knife or any cutting tool, and cuts to the *best* advantage.

Will scour in *any soil*, because it has curves like the mold-board of a steel plow.

Cannot well break, as central ridge is great support.

Prices, No. 1, Ladies' and Garden Hoe, $1.00 each; No. 2, Garden and Field Hoe, $1.25 each; No. 3, Field Hoe, $1.25 each.

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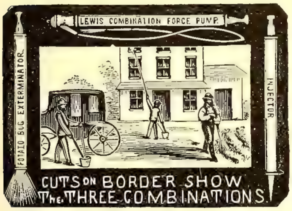

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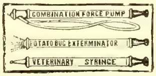

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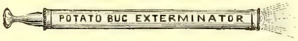

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I challenge the world for its equal. Can do from 3 to 5 acres per day. One pound of Paris Green will give an acre three separate dressings. For *syringing fruit trees* infected with insects of any kind it stands unrivaled. Send for Illustrated Circular, Price List, and Terms to Agents, etc. I give the names and addresses of many of my agents who make from $10 to $30 in a single day; also a long list of my customers, each of whom have bought from $50 to $2,000 worth of these goods in from 1 to 3 weeks' time. You can make from $10 to $20 per day. Agents wanted everywhere.

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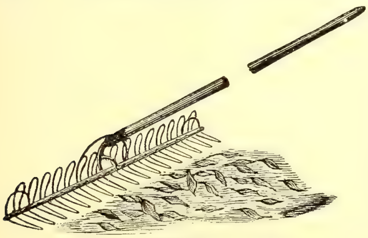
Made in the Most Thorough Manner, of the Best Material, Best Quality of Spring Steel Teeth.



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A Perfect Implement for Cleaning Lawns from Leaves, Grass, and all kinds of Rubbish, and the only one that will do it without injuring the Grass and Roots.

Will level and prepare a garden bed for the seed better and quicker than any other tool. Will clean a race-track perfectly. Just the thing for ladies wishing open-air exercise. A man with one will do the work of six or eight men in a superior manner. The work is light and easy, as the rake is drawn over the ground instead of being carried. *Landscape gardeners will use no other after trying this.* Grass will grow faster and look much better after being combed a few times with the rake.

It requires many years of great care to produce a fine Lawn, which may be injured, and perhaps ruined, in a short time by using common rakes. Price, $1.00.

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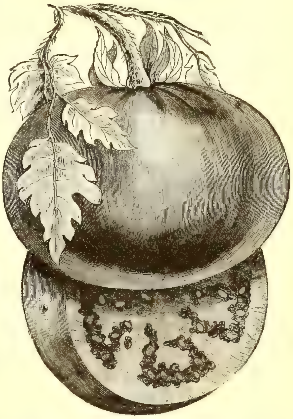
NEW EARLY TOMATO,

MAYFLOWER.



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A New Early Sweet Potato.

EARLY GOLDEN.

This variety originated in Virginia a few years since, with an old cultivator of the Sweet Potato. It is a sport of the old EARLY RED, but said to be far superior to that variety in earliness, productiveness, color, and quality. Slips planted May 10th produced tubers large enough for the market July 25th. On account of its early maturity, it is believed to be better adapted for cultivation in the Northern States than any other variety. In shape they are somewhat shorter than the ordinary varieties, of a golden yellow color, cook very dry, and are of superior flavor. Another valuable consideration in favor of this variety is that they will grow on quite ordinary soil, with but a slight coat of manure, and yielded a large crop the past season upon land that would not grow above fifteen bushels of corn to the acre. In good soil they will produce many specimens weighing three to five pounds each.

We first offered this variety in Spring of 1880, and have received many favorable notices from those who have tested it. It matured its crop as far north as Canada. Specimens have been exhibited weighing six pounds.

Price of slips, with directions for planting, by mail, post-paid, 50 cents per dozen; $1.00 for fifty; $1.75 per hundred. By express, at purchaser's expense, $1.25 per hundred; $10.00 per thousand.

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All Plants packed with extreme care.
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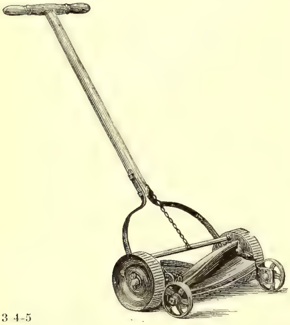

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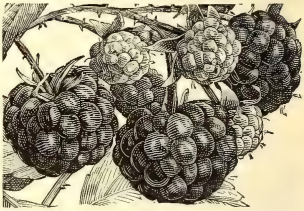

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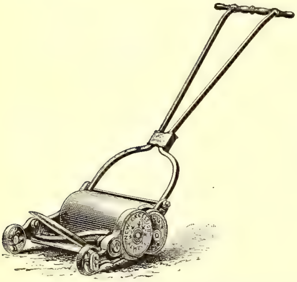

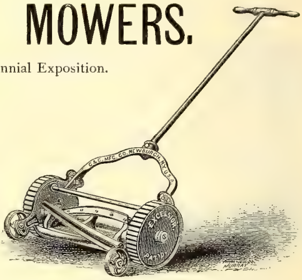

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Features for the Season of 1882.

Lightest in Weight,
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Most Durable, and
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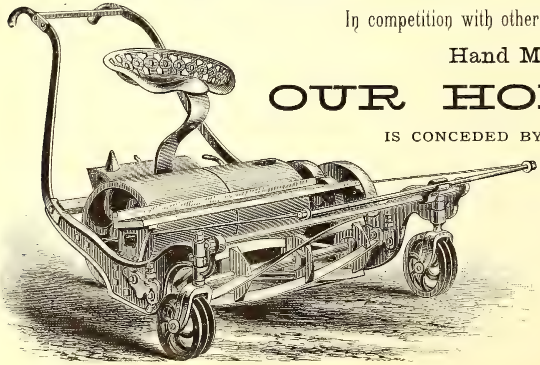
USED ON PRINCIPAL PARKS IN EUROPE AND AMERICA.



In competition with other Mowers have always carried off the Prize.

Hand Mowers, 8 to 20 inch.

OUR HORSE MOWER

IS CONCEDED BY ALL TO BE THE BEST ONE MADE.

Sizes, 25 to 40 inch.

All our Mowers are fully warranted. A trial is solicited. Full directions for setting-up, adjusting, and using accompany each Mower.

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NEWBURGH, N. Y.

The American Garden
W.H.Gibson del

Vol. III. NEW YORK, JUNE, 1882. No. 6.

The American Garden.

A MONTHLY ILLUSTRATED JOURNAL.

Devoted to the Gardening Interests of America.

ONE DOLLAR A YEAR.

SINGLE NUMBER, 10 CENTS.

DR. F. M. HEXAMER, : : : Editor.

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34 Barclay Street, New York,
To whom all orders should be addressed.

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HORTICULTURAL THEORIES.

A few months ago, when foreign Potatoes were strongly recommended for seed here, we stated our experience with them, which showed that imported Potatoes are generally inferior to home-grown ones. Our remarks were extensively copied and variously commented upon, but why any one should call those results of our experiments "untested theories" is more than we can comprehend, especially as we stated plainly that "we do not attempt to explain the causes," but simply state the facts.

Subsequent events, however, have shown that we are not alone in our preference for American Potatoes, the people at large have pronounced in their favor, and have repudiated the foreign stock. Thousands of bushels are now rotting at our wharves for want of buyers, poisoning the air to such a degree that the Board of Health is taking measures for their removal, while home-grown Potatoes sell readily at from four to five dollars per barrel.

"It is not likely that the experiment of importing Potatoes will be repeated," says the *Rural New-Yorker* of this week. "One who has been used to American Early Rose and Peachblow will never hanker after Scotch Champion's, with their ungainly appearance and their flat, insipid flavor, or rather want of flavor."

Even English testimony is in favor of our Potatoes. A correspondent of *The Gardener's Chronicle*, of May 6th, writes: "It is a desirable thing to have Potatoes as good in May as in autumn, and having a few large tubers of *American Matchless* left after planting was over, I cooked them to test the quality, and found they dished up as white, dry, and mealy as a good Regent would be at Christmas, and far better than any Regent would be now. That an American-raised Potato should have such first-rate table quality shows that trans-Atlantic raisers are reaching a higher level, and are now giving us kinds worth eating."

We may say in this connection that we have not the slightest intention to force upon our readers any "pet theories" of ours. In fact we, nor any progressive horticulturist, have any theories the disproval of which would not give us as much gratification as their establishment, when verified by facts. Every thinking man forms some theories, based upon the results of his experience and the facts within his observation. New facts may modify his theories, but he does not care a snap how roughly they are shaken as long as truth remains triumphant.

This decrying of "theories" as something antagonistic to practice, is one of the greatest hindrances to progress. The farmer who after planting part of his Corn the middle of April, and the other the middle of May, finds that the latter gave the best yield, accepts as a fact that May is a better season for planting Corn than April, and forms a theory accordingly. Only a dunce has no theories. Let us have facts, and the theories will take care of themselves.

NOTICES OF THE PRESS.

The American Garden is a reliable monthly guide for all interested in fruits, flowers, and vegetables.—*Elkland Journal.*

The American Garden, published by B. K. Bliss & Sons, N. Y., comes each month handsomer than before, and ranks with the best of its class. —*Farm and Garden.*

The American Garden is a monthly devoted, as its name suggests, to the cultivation of the garden. Those who take pleasure in work of this kind will find it a help in making it both profitable and enjoyable.—*Pittsburgh Christian Advocate.*

Every one who owns a garden should have The American Garden, as it tells all about how to raise small fruits and vegetables, how to make and preserve a lawn, and it will be a great help to the cultivator and lover of flowers. It is worth four times the money.—*Warwick Advertiser.*

The American Garden, an illustrated journal devoted to the gardening interests of America, is a valuable publication, and shows ability in its editorial columns, and contains many fine illustrations. Such a journal cannot fail to prove both interesting and beneficial to all who devote any attention to the subject of gardening.—*Williamsport Gazette.*

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Will be sent from now to the end of the year.

Ask your neighbor to give it a trial.

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The Vegetable Garden.

SEASONABLE HINTS.

Many tillers of the soil entertain the idea that the only object of cultivation is the killing of weeds, while in reality a good gardener should have no weeds to kill. Weeds should serve him only as reminders of his remissness in cultivating his crops at the proper time. The principal object in stirring the ground is to keep the soil light and loose, that air and moisture may penetrate it and that the roots may spread easier in search for their necessary food.

Early Cultivation is, therefore, an important means of success. All growing plants should be cultivated, and the entire surface of the ground around them stirred and loosened as soon as the rows become visible, whether there are any weeds to be seen or not. There are enough of them in the ground just ready to push forth, and this early cultivating prevents them from making much further progress. The early cultivation of slow-germinating vegetables is considerably facilitated by sowing a few Radish seeds in the drills. These do not interfere in the least, and grow so quickly that the rows become plainly marked before the other seeds have sprouted.

Rakes are used too little in the garden. A narrow steel rake or a six-tined prong-hoe are far more efficient implements for stirring the soil around small plants, and easier handled, than a common hoe.

Asparagus should not be cut later than the middle of June, after which time the bed should be well cleaned and cultivated, and left to itself for the remainder of the season. There is no surer way of killing an Asparagus bed than to keep on cutting all summer. We know of some who have succeeded admirably in this way.

Rhubarb is generally not much used after berries begin to ripen, and goes to waste. It may easily be preserved, however, by paring and cutting the stalks in small pieces as for stewing, and then stringing and drying them like Apples. They may then be used, at any time, for pies and other purposes, and are almost as good as fresh stalks. They may also be stewed and preserved in jars like fruits. The flower-stalks, although ornamental, should be cut off whenever they appear.

Okra is one of our undeservedly neglected vegetables. It is as easily grown as Corn and requires about the same treatment. The young, unripe pods, which are the part used, make delicious soups, not only when fresh, but they may be sliced and dried, and used the year round for this purpose.

Sweet Herbs.—Under this name are comprised *Sage, Thyme, Summer Savory, Sweet Marjoram*, and a few others, all of which are but rarely found in private gardens, yet they are valued and relished for seasoning various dishes, and as they may be easily dried and preserved the year round, they deserve more general attention. Their cultivation is simple. The seeds are sown in a hot-bed or out-doors as early as the season permits, in rich mellow soil, lightly covered and watered when necessary. The plants have to be carefully kept thinned out and clean from weeds until they have grown large enough for transplanting.

THE POTATO BEETLE AND ITS DESTRUCTION.

The Potato Beetle was first discovered in the mountains of Colorado, where it fed on some wild species of *Solanum*—the genus to which the Potato belongs. The beetle was therefore known to entomologists for some time before it became a pest to the farmer. When the far West became settled up and the Potato was cultivated near the native haunts of the insect, the means for an easy livelihood were furnished, and also a method of comparatively rapid spreading of the pest. It was first observed as injurious to the Potato-crop in 1859, since which time the Beetle has established himself throughout Potato-growing regions of the United States and the Canadas.

HABITS OF THE BEETLE.

The pest in question is so familiar to many, if not to most, of those who will read this article, that a brief description will suffice. The beetle is about half an inch in length, and is easily recognized by the ten distinct black lines, with a yellow background, on the upper surface of the wing-covers; in fact, the specific name is given in this peculiarity, namely: [*Doryphora*] *decemlineata*. The whole name, when put in English, reads: "The Ten-lined Spearman."

The beetles, or perfect insects, come from the ground in early spring, a fact well known to many Potato-growers, who have found them, as it has been remarked, "standing around the hills watching and waiting for the young Potato-plants to show themselves above ground." I have many times removed the breaking crust over a hill of plants and found as many as seventeen full-grown beetles that had reached their feeding-ground thus early in the life of the Potato-plant. The eggs are laid soon after the beetles come from the ground. They are oval, of a dark orange color, and are deposited in patches of ten to forty on the under side of the Potato-leaves, a single beetle laying from 500 to 700 eggs. The grub, "worm," or larva state is reached in about a week after the laying of the eggs. The "worms" are of a reddish color, with double rows of dark spots along their sides. They eat with great rapidity, and if present in considerable numbers will soon strip a Potato-field of its foliage. As the worms increase in size they are yellowish, plump, and disgusting. In three weeks they go into the earth and change into the inactive or pupa state, in which they remain for two weeks, and come out the perfect insects or beetles.

There are three broods; the last one appears late in the fall, and the larvæ enter the soil and remain there until the following spring.

The mischief is principally done by the insect when in the grub state, although the beetles are large eaters.

THE DESTRUCTION OF THE PEST.

This is the most important part of the treatment of the Potato Beetle. It is clear that if all the beetles could be destroyed in the spring as they issue from the grub there would be very little further trouble. Any means of killing off the first brood is therefore of importance, such as brushing them from the vines, and burning, poisoning, etc. In the second place, if the eggs are sought for and destroyed, the trouble of the season will be nipped in the bud. The eggs, from their bright color and being in clusters, can be readily seen and removed by turning up the foliage with a pole or a hoe-handle, and pinching off the leaves bearing clusters of eggs.

Experience—and a sad one—has taught that the most satisfactory method of destroying the Potato pest is by applying poison to the vines. Paris green has served well in this capacity for a number of years. It is an arsenite of copper, a deadly poison, and well adapted as an insecticide. The methods of using the Paris green are numerous, but are naturally divided into the dry and the wet application. When used in the dry state it needs to be mixed with thirty to fifty times its bulk of flour or plaster. The dusting should be done when the dew is on, or just after a rain, that the poison may be held by the wet leaves. The number of dusters and sifters that have been devised is large, some patented and others not.

The wet method of applying the "green" is preferred by some growers. The poison is mixed with water, one tablespoonful to a ten-quart pail of water. The powder is not soluble in water, but simply mixes in it, and quickly settles to the bottom of the vessel, unless the water is freqently stirred. A large watering-pot with a fine rose may be used for sprinkling the poison. If the crop is a large one, it will probably pay to have one of the patent poison sprinklers or "spray machines," by means of which a large area can be covered in a short time.

The London Purple is now much used as a poison for the Potato Beetle. It is also an arsenic compound, and is a by-product, or a "refuse" left in the manufacture of dyes. The Paris green is more costly, and on account of its expensiveness is much adulterated. The London Purple is, therefore, of more uniform quality. Its color and ease of mixing with water also make it equal if not superior to Paris green. Experience teaches that the liquid mixture should consist of one pound of the "Purple" to a hundred gallons of water. All that has been said as to the methods of application of Paris green apply with equal force in case London Purple is employed.

A WORD OF CAUTION.

These two substances are deadly poisons, and must be considered as such, and should be used and preserved with the greatest care. There is danger from inhaling the dust when applied in the dry way. The greatest care should be exercised in storing the poison that it be put where it will be out of harm's way.

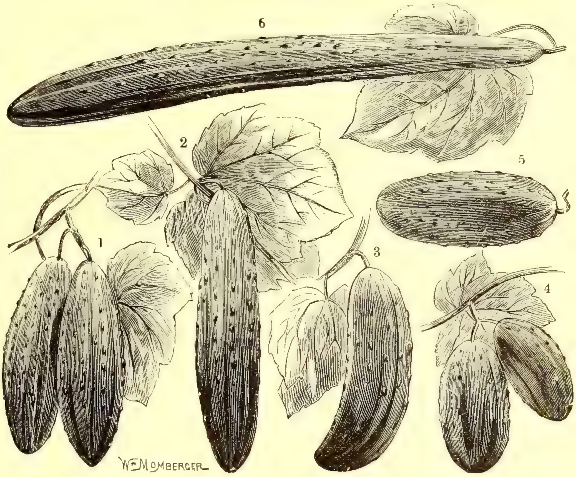
DR. BYRON D. HALSTED.

[The greatest danger in the use of Paris green or London purple is while handling these poisons in the pure state, when mixing them with plaster or flour or water, and unless a separate, secure room can be devoted to the mixing and storing, one feels never safe while the "stuff" is about the place. "Hammond's Slug Shot" is free from this objection at least, as it is prepared ready for use, and, unless handled with reckless carelessness, may be used without danger. The extreme fineness of the plaster used in its preparation adds considerably to its fertilizing value. We have tried this preparation repeatedly during the past few years, and were so well pleased with it that last summer we used it exclusively on ten acres of Potatoes.—ED.]

GROWING PICKLES.

Without entering on the discussion of the sanitary view of the Cucumber question, it seems evident that people will have Cucumbers, for the pickle crop of the State of New York alone amounts annually to about 200,000,000, more than half of which are grown on Long Island and in Westchester County.

Those who make pickle-growing a regular part of their crop rotations—and there are thousands of farmers who derive their principal income from this source—rarely plant their seed before the middle of June and not later than the fourth of July, preferably between the twentieth and twenty-fifth of June. Planted at this time, the vines come into bearing in August and September, deriving the benefit of the cooler and damper nights of late summer—important elements to their productiveness. Moreover, the season of the "striped bug," that deadliest enemy of the whole Cucumber and Melon family, is then already past, so that there is no danger to be feared from its depredations.



VARIETIES OF CUCUMBERS.

The Cucumber requires a great deal of moisture during its growth, therefore a naturally moist, yet not too heavy, soil is most favorable. A drained swamp-meadow with mucky top-soil is, other conditions being equal, most desirable for pickles.

The growth and bearing season of the Cucumber plant is completed in so short a time—not over ten weeks from the sowing of the seed to the last picking—that it is of great importance to provide all conditions favorable to a vigorous and uninterrupted growth. It is hopeless to expect a profitable crop from ground that is not thoroughly plowed and mellowed. The generally pursued plan of planting is, after the last harrowing, to furrow the ground five feet apart each way. At every crossing of these furrows a shovelful of fine, decomposed yard-manure is dropped, mixed with about an equal quantity of soil, leveled and lightly packed down. About ten seeds are then dropped on these hills, covered with an inch of soil, and firmly pressed upon with the blade of the hoe.

If the ground is moist, or showers occur soon, the seeds will sprout in four or five days. As soon as the rows become plainly visible, a horse cultivator is used in both directions, repeating the operation once a week until the vines become too large. When the vines are three or four inches high, a thorough hand-hoeing should be given, pulling out all weeds, hilling up lightly, and removing all but the four strongest plants from each hill.

As soon as Cucumbers of marketable size appear, picking should commence, as these first ones, if left too long, exhaust a great deal of the strength of the vines. Where sufficient help can be secured for daily pickings, and if properly cared for, near a ready market, pickles are among the most profitable crops a farmer can raise.

The principal hinderance to the more general cultivation of pickles has been, until within a few years, the large quantities of yard-manure which were supposed to be indispensable to their culture—the entire yard product being often applied to the "pickle patch," to the detriment of the remaining land. The practice of extensive growers has proved, however, that as good results may be obtained from commercial fertilizers, either alone or in connection with stable manure, and at considerably less cost. Mapes's Complete Manures and similar fertilizers are successfully used for growing Cucumbers and Melons near this city.

The selection of the most suitable varieties is, as in other specialties, of great importance. The annexed engraving gives a clear representation of the principal varieties for pickling as well as table use.

Green Prolific (No. 1) is, without exception, the best variety for pickling. It is more productive than any other kind, regularly and uniformly shaped, producing hardly any overgrown and ill-shaped ones.

Early Cluster, or *Short Green*, is also extensively grown for pickles, and was, before the introduction of the preceding one, the leading pickling variety. It is very productive, but, on account of its tendency to grow too short and round, is losing in favor.

Long Green (No. 2) is of fine appearance, long and slender, but not very prolific.

Early Frame (No. 3) differs but little from Cluster; is perhaps somewhat earlier.

Early Russian (No. 4). Short, oval, smooth, growing in dense clusters around the stem. This is the earliest out-door variety, and on this account desirable for early table use.

Arlington, or *Improved White Spine* (No 5). This is the best and most handsome table variety we have ever grown. It is extensively raised for early forcing near Boston, and in the South for the supply of northern markets. The skin of the small Cucumber is rather too tender for a market pickle, but for that reason, and on account of its attractive appearance, very desirable for home use.

English Frame Cucumbers, of which No. 6 is the type, have never gained much favor here, although highly prized in England. They are not suited for out-door culture, and except as curiosities have nothing to recommend them in preference to some of the above varieties.

EXPERIENCES WITH PEAS.

How to prolong the bearing season of Peas, as much as possible, has always been a problem, the solution of which is of great import to every one who cultivates a garden, and the experience of Mr. H. J. Seymour, Madison Co., New-York, in this regard, deserves special consideration at this season.

Mr. Seymour writes: "While hoeing, last summer, my Little Gem Peas, growing on rich, mucky land, between Strawberry rows four feet apart, I noticed that some of the plants had more than one bearing stalk. The question occurred to me why all could not have several stalks, and, of course, more pods, provided the land was rich enough and there was room enough between them for air and sunshine. Then came the thought of what I had heard and read about shortening-in plants to make them more stocky and fruitful, and of the practicability of a similar treatment for Peas. It was already late in the season, the first blossoms just showing themselves in most cases, yet the experiment was worth trying, and as I had an acre of these Peas it could not amount to much if I did injure a few plants. So I counted off just six hundred plants on one row, stuck a stake firmly in the ground, and pinched remorselessly an inch or more, blossoms and all, from the top of every one of these plants. Then I counted six hundred plants on the row next to this, and drove a stake, without disturbing the plants.

"I watched the decapitated vines with much interest, and sure enough new branches came out abundantly near the ground and from the axils of the leaves. They finally budded, blossomed, and fruited more abundantly than their neighbors, although about a week later. None of the Peas were picked, the entire crop being saved for seed. They were thrashed, winnowed, and carefully measured separately on the 22d of August, with the following result: The six hundred headed-off plants yielded *five plump quarts*, while the six hundred unpruned ones, in the adjoining row, yielded *four scant quarts*."

The practical value of this shortening-in of Pea-vines, as appears from this single experiment, consists, therefore, not only in an increased productiveness of twenty-five per cent., but also in the prolonging of the period of picking from a single planting. By pruning a part of the vines, the harvest of these becomes delayed a week, and thus all the advantages may be secured that would otherwise require two plantings.

The Fruit Garden.

SEASONABLE HINTS.

To equalize our fruit crops, and to devise means for counterbalancing the general tendency of fruit-trees to over-produce in alternate years with intermediate barrenness, has always been a matter of much importance and frequent investigation among fruit-growers. The difference in prices realized in bearing years, against those in barren years, is often four-fold in favor of the latter. More uniform care and culture of our orchards, and other means tending to secure more uniform crops, have been recommended, but none have so far proved entirely satisfactory.

In view of these evident facts, Mr. P. M. Augur, State Pomologist of Connecticut, offers the following suggestions specially with reference to the Apple, which, with a prospective heavy crop this year, may lessen the production and prove profitable to our readers:

"1st. Top-dress your orchards generously, and, where practicable, plow them carefully in early spring, thereby securing a fresh, abundant growth. While this is highly important in giving a new and stronger growth to orchard trees, it may not lessen the crop, while it would materially increase its value. Therefore,

"2d. Systematically prune out a considerable portion of the young bearing branches, thereby materially reducing the amount of bearing fruit-spurs. These two steps will greatly augment the size and quality of the fruit without so much exhaustion to the tree, and with greater probability for fruit the following year. Both these operations may, however, actually, and probably will, increase the value of the coming crop. So,

"3d. Provide an abundance of stools, step-ladders, and longer light ladders, and in the blooming season commence on orchards of young bearing age, by contracting for the entire extinction of every blossom, especially on Baldwin and other alternate even-year bearers. Boys and girls of twelve to sixteen years of age may easily do this, and at such rates as to make it an object to employ them to a considerable extent."

Mr. Augur adds: "Were this to be repeated every year, it *might* or *might not* pay; but the probability is strong that, *once changed* and out of *the old ruts*, a cycle of odd years' bearing might follow, much to the profit of the orchardist; in fact, the experiment has in many known cases been tried with satisfaction. We would not advise this on an old, tangled, unpruned orchard, but on such as offer the best results with convenient access and least outlay; neither should the practice extend over too much ground—we should seek simply to equalize our fruit crops; yet, had I twenty acres Baldwins or Roxbury Russets, I should have little fear of glutting the market should they all come into bearing in odd years."

Cultivating Around Trees.—To cultivate a small circle around the trunk of a tree is of no benefit whatever to it, as its feeding-roots are not near the stem, but at the extreme ends of its roots. To benefit an orchard, the entire ground must be cultivated.

MARKETING FRUITS.

CURRANTS.

The consumption of Currants, both as a table fruit and for preserving, increases every year. Thousands of gallons of juice are pressed out annually by the large preserving houses of our city. This juice is so prepared that it keeps for many months, and large quantities are sold to persons who cannot procure the fruit in season, or do not find it convenient to press it out themselves. In addition to this, tons upon tons are manufactured into jelly, which finds ready sale for fancy-cake bakers and confectioners.

For preserving purposes the old Red Dutch Currant is preferred, and many preservers will buy no other kinds, while other manufacturers are less particular, and buy whatever is cheapest. There is but little demand from grocers and fruit-dealers for this small variety, as for table use only the large "Cherry" and "Versailles" find sale. Dealers in fancy fruits take much pains to procure extra large, selected Currants, and good prices are realized by those marketing a first-class grade.

The best packages for shipping are baskets containing from eight to ten pounds, packed in berry crates. Persons shipping from a considerable distance find it often more advantageous to make cheap temporary crates for these baskets than to send berry crates which have to be returned. The ordinary quart berry-basket answers the purpose very well, and, in fact, is preferable to the peach-basket, or any other of that size.

For White Currants there is but a very limited demand in the New York market. Black Currants, although not in great demand, sell fairly. These, being more solid than the red and white, may be shipped in any ordinary box or basket without injury.

In packing Currants for shipping the baskets should be well filled, that the fruit cannot shake and become damaged during transportation. All Currants are sold by the pound; the net weight of the baskets or boxes they are shipped in should therefore be plainly marked on the outside of every package.

GOOSEBERRIES.

The culture of the Gooseberry has not generally proved profitable to those engaged in it, and the principal cause of failure was in the production of inferior fruit, of which such large quantities have been thrust upon the market that they could not be sold at any price. They were so small that the bakers said it would cost more to prepare them than they were worth; besides, sugar would not sweeten them. In consideration of these low prices, it becomes every grower to raise the largest and finest he can, and get them to market with as little cost as possible to save freight and cartage. I would advise the shipping of them in barrels. If they are to be detained more than one night by the transportation company, ventilate the barrels so they will not sweat. It is my practice to keep a number of half-bushel boxes on hand, such as Huckleberries are shipped in, and, on their arrival, to empty them into these boxes. Owing to the smaller quantity these boxes contain, and their convenience for carrying, they sell more readily than in any other style of package. The large varieties usually sell from $3 to $4 per bushel, while the medium size are selling for $2 and less. The demand for extra large Gooseberries is always good, especially among foreigners, with whom they are a favorite fruit, but the small, green, sour berries can often not be given away.

C. W. IDELL.

DO NOT WASTE BONES.

The bones of fish, bones of fowls, the large and small pieces of bones which are purchased with beef-steak and mutton, constitute the very best food for fruit-trees and Grape-vines, if the fragments are only placed where the roots can lay hold of them. Instead of allowing pieces of bone to be cast into the back-yard, as food for stray dogs and strange cats, domestics should be directed to deposit every thing of the sort in a small tub provided with a lid. As soon as only a few pounds have accumulated, we take the tub to some Grape-vine or fruit-tree, dig a hole, three or more feet long, a foot or two wide, and not less than a foot deep, into which the bones are dumped, spread over the bottom of the excavation, and covered with the soil. The more the fragments can be spread around, the better. But they should be buried so deep that a plow or spade will not reach them. The roots of growing vines or fruit-trees will soon find the valuable mine of rich fertility, and will feed on the elements that will greatly promote the growth of strong and healthy wood, and the development of fair and luscious fruit.

Many horticulturists and farmers purchase bone-dust, costing not less than two cents per pound, simply to enrich the soil around and beneath their trees and vines. Fragments of bones are just as valuable as ground-bone, although their elements of fertility will not be found available in so short a time as if the large pieces were reduced to small atoms. Nevertheless, if large bones be buried three or four feet from a grape-vine, the countless numbers of mouths at the ends of roots will soon dissolve, take up, and appropriate every particle. When cast out of the kitchen door, bones are like a nuisance; whereas, if properly buried, they become a source of valuable fertility. Let every person who owns a Grape-vine or fruit-tree save all the bones that pass through the kitchen, and bury them where such worthless material will be turned to some profit.

S. E. T.

SPRING SET PLANTS.

Strawberries, Raspberries, Grape-vines, and fruit-bearing plants and trees of any kind, should have all flower-buds pinched off, and under no consideration be allowed to bear the same year they were planted. We know well from experience, that the temptation to see the fruit of the plants we have set out so carefully and watched so anxiously, as soon as possible, is very great, yet our wishes cannot be gratified without serious and often fatal injury to the object of our care. A plant must have acquired sufficient roots and body before it can propagate itself. This early fruiting of newly-set plants is in itself a sign of weakness which should be guarded against as we would guard a precocious child from over-exertion.

Water should be given only when the soil is dry to the depth of several inches. Keeping the ground constantly wet before the plants have become established causes their roots to rot.

BLACKBERRIES.

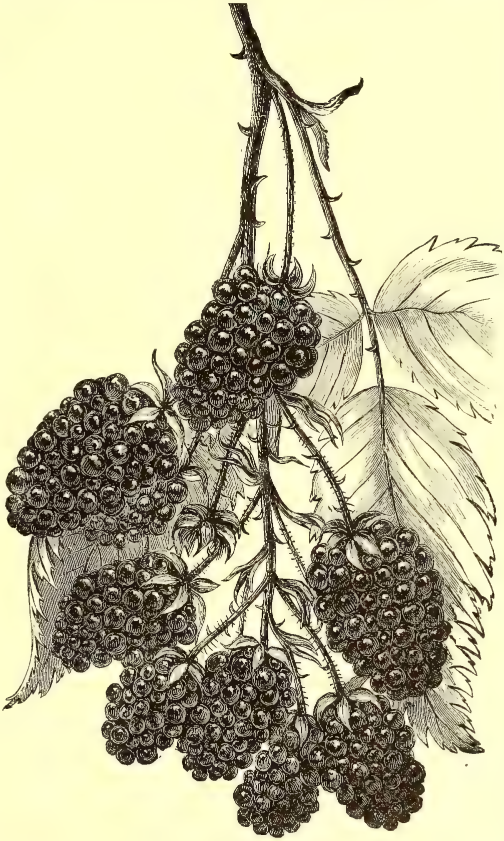
The Blackberry, as a garden fruit, may be said to date from the introduction of the New Rochelle or Lawton. Previous to that period most people in city, town, or country, depended entirely for their supply upon the product of wild plants indigenous to most sections of our county. Both the trailing Dewberry and high bush varieties were generally regarded as a nuisance by good cultivators, and any attentions bestowed on them were for their destruction; so that when the large and attractive fruit of the New Rochelle appeared in our markets, and cultivation of the plants was suggested, it was regarded by a great many people as an innovation not to be tolerated. And yet it required but a few years for those who had devoted so much time and labor to their destruction to change tactics, and plant and cultivate ten times more plants than they ever destroyed, and found profit in so doing.

Since the introduction of the New Rochelle, the Blackberry grew in favor as a garden fruit, and the Dorchester and New Rochelle had the field almost entirely to themselves till 1865, when the Kittatinny and Wilson's Early were introduced and rapidly superseded the first. The advent of these kinds met with such favor that a number of others sprung up, mushroom-like, to contend for the supremacy; but they were short-lived, the Kittatinny and Wilson reaching a preëminent position all over the country, the latter succeeding best in sandy or light soils, the former generally everywhere, save where attacked by the yellow, orange-colored Raspberry Rust, *Uredo Rubrorum.*

This fungus has proved so fatal to the Kittatinny in some sections as to destroy whole plantations; and while it is still the highest in quality and esteem of any other, and is recommended for cultivation in twenty-six States, and regarded as of great superiority and value in ten of them by the American Pomological Society, still fruit-growers are on the alert to find a variety approaching it in hardiness and quality and resisting the attack of this fungus.

The "Snyder" and "Taylor" are the most prominent ones now claiming attention; but their friends admit they are deficient in size, and some suggest high culture and severe pruning as a remedy. The fungus above named troubled my plants to some extent some years ago, but lately I have not had a case of it; and as long as I can grow the Kittatinnies exempt from its attack, I shall require something well up in the standard of quality and size to displace them. I have not yet tested the Snyder and Taylor on my own grounds, but I had a good opportunity the past summer to test the fruit and observe their habits, and I confess I saw but little to recommend them over the best of our wild varieties, save productiveness.

If the New Rochelle is deserving the reputation of being treacherous, by appearing ripe and black, when in reality it is unripe and *green,* these are equally so, and I have an aversion to making faces when eating Blackberries. It is a nice job to pick New Rochelles, or even Kittatinnies, that are fit to go to the table in less than half a day after picking. I know some people are not so sensitive as others in this respect; they can eat Lemons and Pickles with a smiling and serene countenance, and smack their lips with satisfaction at the feat. I never could, and a single hard, sour Blackberry spoils the whole dish for me.



THE KITTATINNY BLACKBERRY.

I know of but one Blackberry that has so little of this acid principle in it that it is palatable when black, and even before, and that is the "Dorchester." I have no scruples to accept a dish of them, no matter by whom picked, and the few plants I still retain were literally loaded with fruit last summer. I know that in some seasons and localities it is not very productive, yet I have had them bear fully if not quite as good a crop as I saw on the Snyder or Taylor. Perhaps the severe pruning recommended for these by their friends would apply as well to the Dorchester, producing like results. Whether it would or not, wherever the Dorchester succeeds well, the grower will have a berry as large as the others (as I have seen them), and the satisfaction of knowing that he need not hesitate to place them on his table and fear his guests will "make faces" at each other when eating them.

Probably the abundance of this fruit in its wild condition has prevented any attempts at improving it by crossing and breeding new varieties; but if those who have the leisure and grounds to experiment in this way were to try, they might produce a berry of the size and productiveness of the Kittatinny, equal to or surpass it in quality, of greater hardiness, and divested of thorns. Whoever succeeds in this will achieve a triumph deserving gratitude and distinction, and will coin for himself a fortune in addition. Who will try?

E. Williams.

THE MULBERRY.

The increased stimulus which the demand for American silks has lately given to silk culture has naturally drawn more attention to the cultivation of the Mulberry than it has received since the days of the collapse of the *Morus multicaulis* craze. But it is not as food for silkworms only that the Mulberry deserves to be grown more frequently. It grows in almost any soil, although it prefers a light sandy, or gravelly loam, and makes, when planted singly, a rapid-growing and handsome lawn tree. The fruit resembles a Blackberry, but is sweeter, of a peculiar pleasant aroma, and without hard core.

The tree is perfectly hardy at the North, yet its good qualities seem not to be appreciated here as deservedly as in the Southern States. Our friend, E. S. Quimby, writes from Titusville, Florida:

"Mulberries do splendidly here, and will soon be largely cultivated. They grow rapidly, and bear when quite young. The fruit commences to ripen the last of February, and continues for months; it is relished by everybody, and is used fresh, stewed, in pies and puddings, and makes, also, a delicious preserve."

Downing's Everbearing is the best and most desirable variety. It is propagated by cuttings as easily as Currants.

A Monstrous Bunch of Grapes.—Mr. Roberts, gardener to the Countess of Charleville, Charleville Forest, Ireland, claims to have grown last year the heaviest bunch of black Grapes ever recorded. Its weight was 23 pounds 5 ounces, its length 24 inches, and its width across the shoulders 22½ inches. The variety was *Gros Guillaume.*

The Flower Garden.

LILAC.

Perfume-breathing, joyous flower!
Lilac, I would sing thy praise;
Gemmed by spring's soft trembling shower,
Sparkling in the sun's broad rays.

Like a grateful hymn to heaven,
Upward thy calm incense floats;
Night and day to thee 'tis given,
Praise to pour from myriad throats.

Praise by acts though not by voices,
As cool perfume thou dost shed,
While each hungry breeze rejoices
O'er the banquet by thee spread.

To my fancy thou appearest
Type of friendship, tried and true;
Homely often, always dearest;
Old in years, yet ever new.

Thy soft tints suggest this feeling,
Mingled blue and rosy red;
Blue its constancy revealing,
Red the hue of love, 'tis said.

And as love is most time jealous,
Yellow in thy depths appears,
Not sufficient to repel us,
But to waken wholesome fears.

Flowers! living gems! I greet ye!
Year by year, with glad surprise,
My fond heart goes out to meet ye,
As I gaze with love-tranced eyes.

But of all your spring-tide beauty,
Summer glory, autumn sheen,
To thee I will pledge my duty,
Lilac! thou shalt be my queen.

R. F. H., in *Gardener's Magazine.*

SEASONABLE HINTS.

Flower-beds in Lawns should be arranged more with a view to the general effect than to the special culture of a great variety of plants. A bed of only one or two harmonizing varieties, placed in a favorable position, is generally more effective than a collection of many kinds. A number of small beds dotted over and cut out of the lawn seldom give satisfaction; they mar or destroy the uniformity and evenness, in which the most pleasing feature of a lawn consists. Besides, the amount of work necessary to keep small beds in neat order—without which they become entirely inadmissible—is very much greater than is generally taken into consideration at planting. It requires but little more labor and time to take care of a large flower-bed than of one of considerably smaller dimensions.

Cut Flowers in sufficient abundance to keep one's parlors and living-rooms, at least, amply supplied all summer, and enough to spare to give to friends and flower missions, are to many the most enjoyable part of their gardens. Cut flowers are their harvest and object of the flower-garden, as berries and other fruits are the final aim in the fruit-garden. To be able to enjoy the luxury of cutting flowers to heart's content, flowers have to be grown like any other crop, and not in flower-beds, where frequent cutting would disturb the general appearance. To this end plants should be set out in rows, in rich, mellow soil, far enough apart to admit easy cultivation and the full development of every plant. If no separate ground can be devoted for this purpose, any part of the kitchen-garden will answer as well.

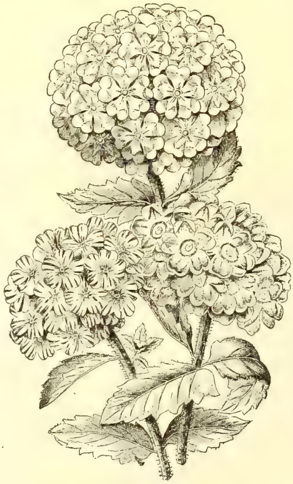
BEDDING PLANTS.

WHAT TO USE, AND HOW TO CARE FOR THEM.

Annuals can be had for less money than bedding plants, but where the latter can be afforded they are generally more satisfactory, for several reasons. They come into bloom earlier and they bloom constantly. They are finer in quality and generally superior in fragrance to most annuals. For cut flowers they are more desirable.

Our leading florists have put the prices on many kinds of bedding plants so low that most lovers of choice flowers can afford enough for at least one bed.

The *Geranium* is our best bedder, all things considered. It blooms during the entire summer, and for brilliance it is unsurpassed. It can be had in all shades of red, in pinks, in salmon, and white, and you can suit your own taste about single or double flowers, as we have them of both kinds in all the desirable colors. If you want a bed that will fairly dazzle the eyes you can do no better than to select Scarlet Geraniums. The variety with a pale green leaf, edged with pure white, makes an excellent border for such a bed. The pink varieties are magnificent in color, and I prefer them to the more brilliant scarlet varieties.



HYBRID VERBENAS.

Carnations are most desirable bedders. They are beautiful in form and color, fragrant, and profuse in bloom.

Fuchsias are very fine for bedding, if they can be given considerable shade from the hot sun. For a northern exposure they are excellent.

The Heliotrope is not as showy as a great many other flowers, but it is very beautiful for all that, and it is so exquisitely fragrant that no garden can be considered complete without it. It is unequaled for use in bouquets. What the Mignonette is among annuals the Heliotrope is among bedding plants.

Lantanas are flowers of the easiest culture, and they bloom during the whole season. They afford a great variety of color.

The double *Petunia* is a magnificent bedder. The variegated kinds are as desirable as Dahlias, and much easier of cultivation.

Verbenas that come from seed seldom have the delicacy of texture and brilliancy of color of those propagated by florists. If you have a low bed that you want to be a showy one, cover it with Verbenas. You can select nothing finer. They branch rapidly and a few plants will soon cover a large bed completely. Cut off the clusters as soon as the flowers fade, and you will have all the Verbenas you want until frost comes.

Bouvardias are excellent bedders, and I prize them very highly for use in bouquets.

Roses are always favorite flowers, and by using the Tea, Bourbon, Noisette, and China varieties you can have them from June to November. If I could have but one bedding plant, it would be one of these Roses, for in it I should be sure of having in its highest degree beauty, fragrance, and, properly treated, a profusion of flowers. To get the best satisfaction from these Roses, you must give them a soil a trifle heavier than ordinary garden soil,—an admixture of clay I have found beneficial where the soil had considerable sand in it,—and they like plenty of rich food. I prefer well-rotted barn-yard manure to any other stimulant for the Rose. I am always careful to go over my Rose-bed daily, and cut off all faded flowers. As soon as all the buds in a cluster have bloomed, I cut back the branch to a good, strong bud, and very soon a new shoot is put forth which soon gives flowers. This cutting-back process must be attended to, if you would have plenty of Roses.

If you want a brilliant bed of "foliage plants," use *Coleus* for the center and *Centaurea* for edging. The effect will be finer if you use a *Canna* or two as a center-piece. The contrast between the rich colors of the Coleus and the gray of the Centaurea is very striking. Several species of *Achyranthes* are of easy culture and desirable for ribbon beds.

There are a good many other kinds of bedding plants that are well worthy a place in any collection, but I would not advise the amateur to try too many. In growing annuals and bedders, as in plants for the house and conservatory, aim at quality rather than quantity. You will always get more enjoyment out of one *good* plant than out of half a dozen *passable* ones.

If you order bedding plants, and they are wilted when they arrive, set them, without removing them from the moss or paper in which they are wrapped, in shallow pans of water, moderately warm. They soon revive, and you need not lose one in twenty, if you will give them this treatment. If you were to put them into the open ground, as soon as received, such plants as had become dry, and suffered in the journey, would not recover their lost vitality for several days, and many would perish. If you cannot have a cloudy day for transplanting, take the time after sunset. Make a little hole in the earth, with a small trowel or knife, and place your plant in it, disturbing the roots as little as possible. Press the soil about it firmly, then give a good watering. If the next day proves hot, shade the plants. They will soon become established, and they will begin to blossom as soon as they get thoroughly to growing. If you want plenty of flowers, remove all faded ones. If you allow seed to form, you will not have as great a quantity of bloom as you can secure by removing promptly all flowers past their prime.

EBEN E. REXFORD.

WILD FLOWERS.

Many of our native plants have for years been cultivated in Europe among the choicest garden flowers, where it happens frequently that American citizens admire their beauty, while at home they would consider beneath their notice the "weeds" growing in meadows and by the roadside.

There seems to set in a healthy reaction in this respect, however, and an appreciation of the beautiful for beauty's sake. Clumps of native Ferns and various wild flowering plants, Skunk Cabbage even, with a ball of earth carefully wrapped in moss, are daily offered for sale in our streets, where they find eager admirers and buyers. Many of these, we fear, will meet with disappointment, however, when these children of the woods, deprived of their native elements, refuse to thrive in a glazed flower-pot, exposed to the burning sun on the window-sill. Yet many of these plants succeed admirably under cultivation, in a city yard even, when some care is bestowed upon them; and the following communication upon this subject, from our esteemed correspondent Mrs. M. F. Pike, will be of interest to many of our readers:

"I am pleased to notice the good words you have for wild flowers. Your remarks on

LOBELIA CARDINALIS

were especially interesting to me, as I have cultivated it for some time. This beautiful plant grows in clumps in the boggy woods of Long Island, and may be found, without much trouble, not far from Brooklyn. It may not be so well known that, with but little care, it will accommodate itself to cultivation more easily than most wild flowers. I had a clump cut out of the fibrous earth—this the Lobelia loves best—without touching the roots. The flower-spikes were nearly ready to open, and, to my surprise, they not only not wilted, but opened brightly and seeded. I expected to see no more of them, but was delighted to see them come up the next spring, and for three seasons since they have flourished, and their rich spikes of brilliant blossoms are, if possible, finer than in their native wilds. The only care they receive is a coat of dead leaves in winter.

"I would also add a good word for the greater attention to

PERENNIALS

in private gardens, as they give such a wealth of bloom before it is possible to decorate a plot with Annuals. If judiciously chosen and mingled with bulbs, flowers may be had from the time the frost leaves the ground in spring till it returns with its scathing breath to lay low the last lingering starry Chrysanthemums.

"My blue, pink, and white Hepaticas, the delicate Anemones, Blood-roots, and other pets I have from time to time transplanted to my city home, have already rewarded me with their early flowers, and the exquisite Violets, blue, striped, yellow, and white, are a beautiful sight. When all are in bloom, peeping out from my Ferns and Lilies of the Valley, I would not change my wild bouquet for many a costlier one.'

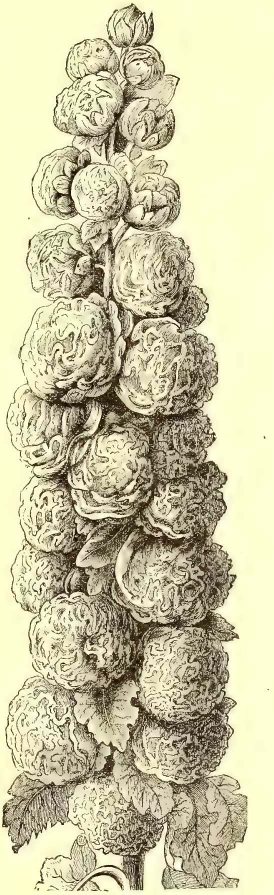
"Now is the time to try the experiment, my fair flower-loving sisters. Try it, and you will gain as much in health and pleasure for yourselves as you will add beauty to the shady side of your gardens by searching for Nature's lovely children in her wild haunts."

HOLLYHOCK.

(Althæa rosea.)

For massive floral effect during late summer and autumn, the lately introduced choice double varieties of Hollyhocks are second to no other class of plants, the Dahlias even not excepted. Flowering at the same season, the two plants may be combined to good advantage, the Hollyhock forming an excellent background to a group of Dahlias.

Its stately character, growing five to eight feet in height, and its profusion of bloom and color, make it a most desirable plant for extensive grounds, where they may be planted so as to produce the most striking effects. The wealth of the shades and colors of its flowers is almost as varied as in Gladiolus, ranging from white and yellow to orange, rose, scarlet, carmine, maroon, and dark purple, almost black. The flowers are four inches and over in diameter, very double, and thickly set around the magnificent spikes, extending two feet and more.



DOUBLE HOLLYHOCK.

The plant is a biennial, and seeds sown at any time during summer up to September will flower profusely the following season. The young plants should be protected during winter, and the following spring be transplanted to their blooming quarters. If sown during February or March in a hot-bed or greenhouse, and afterward transplanted to the open ground, they will generally bloom the first year. They come pretty true from seed, yet, when it is desired to preserve very choice sorts, propagation by cutting has to be resorted to. For this purpose the stalks are cut off about ten inches from the ground, immediately after flowering. Numerous small shoots or tops will soon start, and these are used for cuttings, and treated like other soft-wooded plants.

The Hollyhock is a gross feeder, and although it will grow in any good garden soil, to reach perfection it must have a good supply of rich manure in the soil, and is much benefited by an occasional drenching of liquid manure.

SIBERIAN SQUILLS.

(Scilla Sibirica.)

The Siberian Squill, is the brightest, best, and earliest of all our blue-flowering hardy bulbs. A week or two after the first Crocus blooms appear, the deep blue blossoms of the Siberian Squills spring up, and they stay with us, advancing in size and brightness, till the Tulips come. They ripen many seeds, and a profusion of self-sown seedlings spring up all around them; in fact, they reproduce themselves more numerously than any other bulbs I know of. They are as hardy as Dandelions, and, next to Crocuses and Snowdrops, among the cheapest bulbs in the market. Plant them anywhere—in your mixed borders, toward the front of your shrubbery clumps, in patches in the grass, about the rockery, or wherever else is convenient, but, if practicable, somewhere where they will not be lifted every year to make room for summer plants, as might be the case if you planted them in beds which you meant to fill with Coleuses and Geraniums in summer. Plant them four or five inches deep, and the richer and deeper your soil, the stronger and brighter shall be your Squills. WM. FALCONER.

TIGER FLOWERS.

(Tigridia.)

The species cultivated are *T. pavonia* and *T. conchiflora*, the first bright orange-red, the latter with yellow flowers, both spotted with dark purple. They are natives of Mexico, and are, next to the Gladiolus, the most showy and brilliant summer-flowering bulbs, deserving a place in every garden. The bulbs are tender, and should therefore not be planted before the middle of May. They succeed best in a rich mellow soil, but do well in an ordinary flower border, and should be planted about two inches deep. The gorgeous flowers last only one day, but as new ones expand daily the clumps are in almost continuous bloom.

Tuberoses.—With good bulbs to begin with, there should be no difficulty in raising these delightful flowers. They require a deep, rich, light soil, and should be planted not less than four inches deep, and not before the middle of May. If flowers are desired earlier, some bulbs should be planted in pots, started in the house or hot-bed, and afterward, when all danger of frost is over, transplanted into the open ground.

Lawn and Landscape.

ORNAMENTAL PLANTING.

By what means can a taste for ornamental planting be most effectually promoted is a question which every lover of trees and beautiful lawns is frequently asking himself. Public gardens and parks are, no doubt, great means for the education of such tastes, but a more effectual way—that every nurseryman should have a portion of his grounds tastefully laid out and planted with choice trees and shrubs — is suggested by Mr. Wm. C. Barry, president of the American Nurseryman's Association, in the following:

These nursery grounds would become in a measure schools in their respective localities, where the public taste would be cultivated and some knowledge of ornamental planting be acquired. Many instances of this kind, now existing, might be cited. They should be, and I trust will soon be, more general.

DRAINAGE.

One of the first and most important considerations connected with ornamental planting is thorough drainage of the soil. Few people are aware of the importance of this operation, and many gardens and grounds which have been planted at considerable expense afford little or no satisfaction, in consequence of lack of attention to this important work. Planters should understand that trees and plants cannot thrive in undrained soil, unless it is naturally dry, which is rarely the case. There are many potent reasons for drainage, which if properly considered would induce planters to devote the necessary time and thought to the subject. I will refer to some of them briefly.

Experience has taught those who have planted extensively and observed closely, that all trees and plants thrive best in a dry, deep, porous soil. The roots of such trees strike deeper, the stems grow stronger, and the young wood ripens up perfectly before the cold season sets in. It is of the greatest consequence that the young growth should ripen well, for if it does not a severe winter is certain to kill it back, as is the case generally, if not always, with trees and plants growing in undrained or wet land. Disappointed planters sometimes tell us that the trees and shrubs which they purchased, and which in our catalogues are represented to be perfectly hardy, have been winter killed, and they ask us how we can account for it. An examination of the case most always shows that imperfect drainage is the cause. The hardiest trees and shrubs will not root well in wet soil, and though they may live for awhile, they go sooner or later. Conifers and half-hardy trees particularly cannot endure such treatment, and a dry summer or a severe winter quickly puts an end to their existence.

Deep drainage, while it carries off the superfluous moisture so injurious in its results, has also the effect to render the soil warm, friable, and porous, allowing it to be worked more thoroughly, and preventing injury from drouth. Cultivators have learned that well drained, deeply worked land, resists the drouth remarkably by absorbing all moisture in the air. Great losses are thus averted.

Many are deterred from draining on account of the expense. Good tile drains, sunk three to four feet in the ground, and about twenty feet apart, with a good fall and proper outlet, can be made at a moderate expense. Even though the outlay seems quite considerable at first, it is nothing compared with the losses and disappointments which may result from undrained land. After draining, the soil should be well plowed and stirred to the depth of eighteen inches, and properly enriched. If the drains work well, we may look forward to good results from the plantings.

ERRORS IN PLANTING.

The effects of judicious ornamental planting are greatly enhanced if the grounds are well laid out. Inasmuch as I intend my remarks to apply more particularly to small or medium-sized gardens, I will refer briefly to some errors in planting which are usually made, and which mar the beauty of grounds.

I suppose that I cannot be much out of the way in stating that there are few people who know how to lay out a garden. This is not strange, because it is no easy task, and it requires knowledge, experience, and skill. Many imagine that they are capable of laying out their own grounds, and only find out how little they know of the subject too late — after they have planned and planted with unsatisfactory results. The laying out and planting of grounds, whether they are large or small, should, if possible, be entrusted to competent artists. The expense will be small, and the satisfaction great.

In every city and village gardens are to be seen which have been planned and planted utterly regardless of all rules of landscape gardening. Those who have a knowledge of the art cannot refrain from noticing the blunders that are made, and it is particularly annoying to them to see fine grounds, which might have been rendered exceedingly interesting, utterly ruined by injudicious planning and planting. The owners of such grounds, though they know nothing about gardening, feel that they have made grave errors, but that it is beyond their power to correct them.

In city gardens, one of the mistakes most frequently committed is that of planting indiscriminately—leaving no breadth of turf, and destroying the lawn without realizing any effects from the plantings. If we look about us, we shall see how often this occurs; yet it seems very strange that gentlemen who have spent thousands upon a house would be willing to sacrifice beautiful grounds by careless planting. The same attention and care which are bestowed upon the house should be devoted to the garden, in order that the house and its surroundings may present one harmonious whole. Another common error is that of planting trees which attain large size in small lots. A tall Elm or Norway Spruce, or other large tree, is very much out of place on a small lawn. There is no excuse for errors of this kind, for there are numbers of trees of secondary size which can be employed with advantage.

WALKS AND DRIVES.

These are prominent and important features in ornamental grounds, exercising a marked influence upon their appearence, and the degree of enjoyment they may afford. They should, therefore, receive a due share of attention, both as to location and construction. Walks and drives should be so constructed that a few moments after the heaviest shower we can go over them without the slightest inconvenience. If garden walks are not properly made with stone and a good coating of gravel, it will be necessary to deny ourselves the pleasure of many a ramble through the garden.

Walks with graceful curves are, on the whole, most appropriate for small grounds. They lend a charm to the garden which straight walks do not. The walk from the street to the house must often, of necessity, be straight. This divides the lawn immediately in front into regular parts, requiring a certain style of formal planting in order to preserve harmony. If, instead of a straight walk, a curved one be started at one side of the garden, the lawn will be irregularly divided, enabling another and more pleasing style of planting to be employed. The curves of the walk must be long and easy. It will sometimes require a good deal of labor to make the curves easy and pleasing. The walks should first be marked out with small stakes, and the curves must be arranged and re-arranged, until they are satisfactory to the eye. A proof of easy curves is the facility with which they may be traversed, either on foot or in a carriage. If the curves are abrupt and difficult the edges of the grass will suffer by being trampled upon, either by horses or foot passengers. Walks with curves are often badly designed, the curves being very difficult, thus spoiling the effect of good lawn planting. Straight walks, planted on either side with large-growing trees, present a majestic appearance; on large, level grounds, they may be introduced with fine results; but curved walks are best adapted to ornamental planting — being more natural.

THE LAWN.

Since the introduction of the lawn mower, the lawn has come to be regarded as the great feature of a garden. When it is well kept there is nothing more beautiful or pleasing than a broad, open space of turf, and in the planting and arranging of trees it should be our endeavor to keep the lawn as open as possible. This can be accomplished by arranging the trees and shrubs in borders or belts around the margin, with a fine specimen tree occasionally standing alone in a prominent position, where its beauties can be seen to the best advantage.

LATE PLANTED SHRUBS.

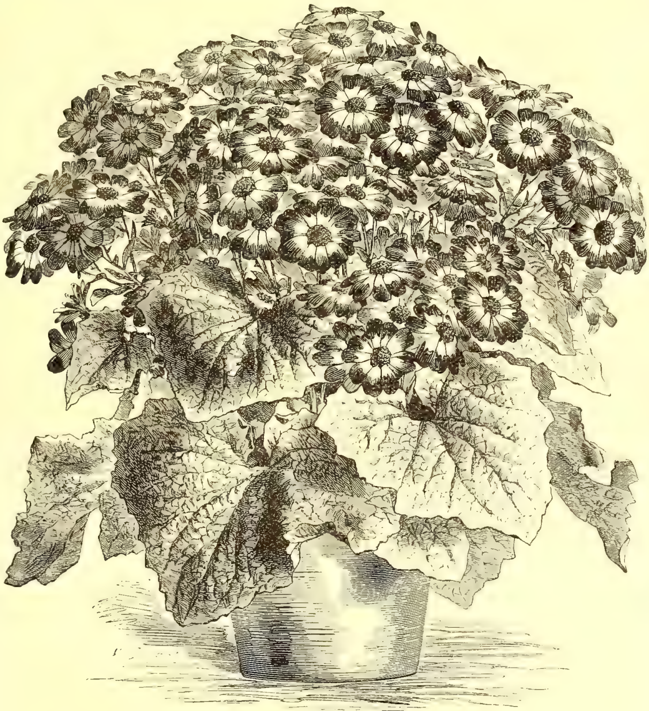
It is sometimes desirable to transplant ornamental shrubs in summer. With proper care, ordinary sized shrubs may be transplanted at any time, and, if a cloudy or damp day is chosen for the operation, without any risk.

Dig the hole for the new position first, then, if the soil around the shrub is dry, soak the ground thoroughly, dig carefully, so as to preserve all roots, and injure not more than is unavoidable; transfer the shrub to its new place, with as little exposure as possible; work the soil well between the roots, pack firmly and pour on two or three pails full of water, fill in with soil, level the surface and apply a good mulch, to remain all summer. The shrub should also be severely pruned in proportion to the loss of roots sustained.

The Window Garden
AND GREENHOUSE.

CINERARIAS.

The culture of these beautiful and showy house-plants, which may be had in bloom nearly all winter and spring, has so far not received the attention of amateurs here which their many desirable qualities deserve. Several recently received inquiries seem, however, to indicate their growing into more favor. *Gardening Illustrated* gives the following practical and timely directions, which may be of interest to those intending to grow Cinerarias:



HYBRID CINERARIA.

SOWING.

When plants are required for winter blooming a few seeds should be sown in April or May, but for a general display, continuing through spring, sowings should be made from June to September. Prepare a pan or box for receiving the seeds by putting in plenty of drainage in the usual way, then filling in the roughest part of the soil to within an inch of the rim, and pressing it firm, adding one and a half inches of finely sifted soil, consisting chiefly of well-rotted leaf-mold and a fourth part of loam and sand; press the surface quite level and smooth, and sow the seeds over the surface equally, and again press with a board, without covering the seeds at all; place the pans in a moist, close pit, where there is a little bottom-heat but no fire-heat, or in a shady part of a greenhouse; or, what is better still for these seeds and many others, in a warm north house; place a sheet of glass over the pan until the seed germinates, when it must be removed, to prevent the seedlings "drawing," and the pan placed close to the light, in whatever house it may be.

POTTING.

When the seedlings have two rough leaves, and can easily be handled, they should be transplanted into boxes, giving them two inches of space every way; place the boxes in a cold pit and shade from bright sunshine, taking care to keep soil and atmosphere constantly moist; allow abundant ventilation, but no draft. When the plants begin to become crowded in the boxes they should be potted into four-inch pots, and as these become filled with roots they should be shifted into five or six inch pots, as may be thought desirable, and in these the plants should flower. Shelter and moisture, however, about the soft foliage must be still maintained, for if the Cineraria be once allowed to become stunted and wiry in its growth, from neglect of water, or any other cause, the prospect of good plants is quite hopeless. Weak manure-water should be given them every time they are watered, after they have filled their pots with roots.

SOIL.

The Cineraria is not very particular as to soil. It will grow well in a fresh sandy loam, with a third part of well-rotted horse manure or leaf-mold, to which should be added a little coarse sand. In order to keep the drainage free and open, the rougher portions of the leaf-soil should be placed over it. The latest sown batch of plants will be found the most easy to manage, and will turn out the best specimens, having the cool, moist nights of autumn in their favor.

INSECTS.

The Cineraria is particularly subject to the attacks of the green fly, but these vermin are easily destroyed by tobacco smoke. They will sometimes attack the roots, without any signs on the leaves, in which case the plants should be turned out of their pots, which should be inverted, the plants placed on them, and in this position should be fumigated and then returned to the pots.

SPECIMEN PLANTS.

Large specimen plants may be easily grown by shifting the plants on into ten-inch pots, using some rough bones in the soil; but care must be taken that the plants never become in the least pot-bound before they are shifted into the flowering-pots; in other words, they must be kept steadily growing, without check, and when the heads of bloom are well up they may be opened out and tied into shape by thin ties of bast to the rim of the pots, for which purpose perforated and rimmed pots should be used, as they are much better adapted to this work than the common pot, which necessitates the use of sticks. These specimen plants must be grown close to the glass, in a moist house from which frost is excluded. Weak liquid manure must be given regularly, and plenty of room allowed between the plants for the free circulation of air.

SICKLY ORANGE TREES.

These and other large house-plants, as Oleander, Laurestinus, Lemons, etc., may often be restored to health and vigor by taking them out of their pots and tubs and planting them in the open ground during summer, cutting back at the same time all weak and straggling branches. The soil should be mellow and moderately rich, but no manure, liquid or solid, should be applied before the plants have started into vigorous growth again. In the fall, before frost comes, they should be repotted in pots but little larger than those they occupied before, giving plenty of drainage, and watering only when the soil becomes dry.

When it is not convenient to transfer the trees to the open ground, they should be taken from their pots, have all the earth shaken from the roots, decayed parts cut off, and be repotted again in fresh soil, consisting of equal parts of loam, leaf-mold, and thoroughly decomposed manure, with a small addition of charcoal dust.

THE NEW GERMAN IVY.

Mr. Wm. Falconer, superintendent of the Cambridge Botanic Garden, writes us: "The illustration of the new German Ivy, *Senecio macroglossus*, in the May number of THE AMERICAN GARDEN, is a good likeness. It is not such a superfluous grower as the old German Ivy, *Senecio scandens*, but it has a finer look about it; its leaves are thick, fleshy, and violet tinged, and its blossoms are moderately large, buff-yellow, and borne in moderate quantity in the winter months. The flowers of the old German Ivy are very sparingly produced, inconspicuous, and Groundsel-like."

Foreign Scenery.

THE WILD FLOWERS OF PARA.

THIRD PAPER.

We have failed to notice many plants which, though interesting to the botanist, have no floral beauty; of these there are many hundred, and a large herbarium could easily be filled; our enumeration is thus rather of a selection than a collection. What first attracts the notice of a new comer to Para is the number of plants which he has only seen in greenhouses growing here in the open air.

On the outskirts of the city bright Passion flowers clamber over the trees in every thicket; they are usually of the species, botanically, Tacsonia, with scarlet or crimson flowers. They are very showy, but the plants never give as many flowers as the same species grown in our greenhouses. They climb high, and as a climber left unpruned seldom flowers until it has attained its full growth, the blossoms are on the ends of long rambling shoots, and are not produced in profusion. Many a dark thicket is lighted up by these showy flowers, which, strange to say, are never grown here in the gardens or around the houses. The Brazilians, though very fond of flowers, seem to have a distaste for the beautiful flowers which grow wild, and seldom cultivate them; but they grow single Marigolds and Dahlias, and other exotics far inferior in beauty.

Of the true Passifloras one with a blue flower is cultivated for the fruit, which is as large as a small Musk-melon, of about the same shape, and not unlike it in taste, being very rich and sweet, and soon cloying the appetite. This plant is grown on wide, flat arbors, which it covers with a mass of light green entire leaves, the fruit, in all stages of development, hanging below on long peduncles. The fruit of many of the wild species of Tacsonia is also eaten under the general name of "Maracaja." In size they vary from that of a small Plum to that of a large Peach; the color of the skin is bright orange; this encloses a dry, white, spongy tissue, which surrounds a mass of seeds, each of which is enveloped in an acid pulp of pleasant taste.

Another family of climbers which we shall find well represented on the Estrada de St. José is the Trumpet-flower, botanically *Tecoma* and *Bignonia;* indeed, Brazil is the home of an immense number of this genus, some shrubs, some climbers, and others immense trees.

We find some which much resemble the Trumpet-flower in cultivation in the United States, generally natives of dry, sandy soil.

These flowers are the favorite resort of a large biting ant, and no sooner does one attempt to gather them than he suffers for the attempt. Often when about to smell a flower one sees an ant with open mandibles, ready to give his nose a warm reception. When an ant once takes hold he never knows when to let go, and often one may pull away the body leaving the head still fast to the flesh. Ants are the great nuisance of a tropical climate; in many species they swarm everywhere. To the half-dozen kinds which live in the houses one soon becomes accustomed; but no amount of familiarity can lead one to endure with resignation the biting red ants which live in the gardens and fields, rendering gardening at times almost impossible.

The famous street of Mungubas, formerly conspicuous for the rows of trees of that name, but which now are in bad condition, dead or dying, crossed the Estrada of St. José at right-angles, just above the Botanic Garden; and here we shall find large plants of Allamanda climbing over the bushes, and full of the large yellow flowers. This plant is not uncommon on the outskirts of the woods, in low grounds, and along the edge of the rivers. Its bright flowers are always conspicuous, and it has the merit of being a perpetual bloomer. Unlike most of the climbers here it begins to bloom very young, and the larger the plant, the greater the profusion of bloom. Sometimes, instead of climbing, it spreads along the ground, the joints rooting freely in the moist soil, and sending out great trusses of showy flowers.

Here, also, we find another pretty little flower, which at first sight reminds one of a small *Oncidium;* it has the same bright yellow color of so many of that genus of Orchids, and is not unlike them in form. It belongs, however, to a genus of *Malpighiaceæ* and has shining foliage. The flowers before fading turn coffee-colored, and the combination of the two colors on the same plant renders it attractive; it is also always in bloom.

For a long distance the roadside is carpeted with a slender, delicate-leaved plant, which has a very familiar look. It trails along the ground and roots from the joints, seldom exceeding a few inches in height. As it is afternoon we can find no flowers; but in the morning all the ground is strewed with little three petalled, bright-blue blossoms, the effect of which is very pleasing. It is a Spiderwort (*Tradescantia*), and, like all of the family, the flowers are very fugitive, soon withering in the hot sun. There are other Spiderworts here, but we have not observed them wild round Para. *T. discolor*, so well known in our greenhouses, is a favorite plant in the gardens, and being able to resist the hot sun, it is frequently grown in the vases which stand on the parapets of the houses. It produces its white blossoms in great profusion, and the seed, when ripe, germinates on the parent plant, roots in among the clasping leaves, and every old plant thus becomes a large nursery of young ones.

There are many plants in the suburbs of Para not natives of Brazil, which have escaped from cultivation and established themselves by the roadsides and in waste places. An example of these is the Indian Shot (*Canna indica*), which is not uncommon around Para. We have also met quantities of this plant growing far from any existing house, in the open woods, more than 700 miles up the Amazon. It is probable, however, that at some former time a house stood near the place, as the forest was of secondary growth, and a house once deserted soon disappears, the palm roof rotting and the frail mud walls falling to the ground, soon to be covered with a luxuriant vegetation. Brazilian houses have no cellars; and some garden plants, bushes of Anatta (*Bixa Orellana*), or Lemon, Orange, or Guava trees, growing in the forest, are the only signs which remain to show that the spot was once inhabited.

Another garden plant which we find in especial abundance on the Estrada de St. José is *Thunbergia alata;* in some places it covers the ground, climbs up the fences, and runs over the bushes. It is always in bloom, and grows with a luxuriance unknown in our gardens. The varieties are those with light yellow and dark orange flowers, both with and without the deep-colored throat; but the white-flowered variety is unknown here, either wild or in gardens. An exotic species *(T. laurifolia)* is rather common in gardens, and is often seen climbing up trees or covering arbors. It produces in great profusion its immense pale blue, Gloxinia-like flowers and is one of the most beautiful of cultivated climbers.

Still another exotic, which has become extensively naturalized in Brazil, is the Balsam Apple *(Momordica balsamina)*. It grows everywhere, and many an unsightly brush heap is made beautiful by its delicate foliage. Just under our window, leaning against the massy wall of the Custom House, is an old boat, its days of usefulness over, the planks rotting from the bottom and the ribs falling to decay. Of this the Balsam Apple has taken possession; it twines in and out in every direction, the slender shoots sway in the wind, and the bright fruit swings pendant along the sides. In the morning all the delicate tracery of foliage is gay with yellow flowers, and this all the year round, for young plants spring up as fast as the old ones decay, in constant flower and fruit, in this region of perpetual summer.

On our walk we shall see hundreds of these delicate climbers, and just above the square of St. José is a giant tree the whole trunk of which is clothed with the delicate foliage, which has even mounted to the lower branches. But the tree has another tenant, a mighty climber which twists its huge coils around the trunk, climbs far into the spreading head, and sends great drooping branches almost to the ground. The flower is most peculiar: imagine a mass of pea-shaped flowers two inches long on a circular crown, the shorter petals toward the center hanging on a long and very slender stem, color bright yellow, swinging all among and over the branches of the tree, although no imagination can give a perfect idea of the effect produced. The plant is one of the Entadas—huge vines common in South America, and found in the Amazon Valley way up into Peru. The flowers will be followed by a large bean-like pod covered with stinging hairs, in which are the large bean-like seeds. They are round, flat, and susceptible of a high polish, and are the so-called "Sea-Beans" which are sold in the streets of New York for pendants to watch-chains. They derive their name from being often found on sea-beaches, whither they have been borne by ocean currents. The plants often twine on trees overhanging the great rivers of South America, or their confluents; the seed, when ripe, falls into the water, is carried to the ocean, and at last is left by the receding tide on beaches thousands of miles from where it grew.

The setting sun which, under the equator, is so soon followed by darkness, warns us to leave our botanizing for another day, and we walk on to our house, the air full of the odor of Orange blossoms, Jasmine, and many other sweet-smelling flowers.

EDW. S. RAND, JR.

Rural Life.

A TRAILING ARBUTUS FESTIVAL.

I wonder how many of the readers of the American Garden have ever wandered forth in the woods, on a bright sunny afternoon in early spring, in search of the lovely Trailing Arbutus flowers, hiding away so modestly beneath the leaves which have protected them during the winter. To those who have never participated in such an enjoyable excursion, the following lines may convey a faint idea of the pleasure derived from such a ramble. The Trailing Arbutus, or Mayflower, as it is called in some localities, grows in some profusion on "Elk Ridge," and the sweetness and elegance of the bright pink and white blossoms are highly appreciated by the flower-loving young people of our vicinity.

Every year a considerable number will join and have a little picnic, usually meeting at Rev. J. S. G's, and when all have assembled, the merry crowd, teacher and pupils, free from the restraint of the school-room, all start off together for the woods. And what a time we do have! The air is filled with the sound of merry laughter, gay snatches of song, and exclamations of delight, as the fragrant clusters of blossoms are lifted up from their hiding-places beneath the oak leaves.

The first place of interest we reach is "Fern Rock"—a rock of massive proportions—with a fissure extending the length of one side, from which the graceful Fern leaves protrude in such abundance as to form a huge curtain of beautiful green, "bedewed beneath with drops of richest brown." Leaving Fern Rock we next proceed to "Chincapin Spring," which lies at the foot of a hill covered with gigantic Laurels, and some Chincapin bushes at its base, from which the spring derives its name. The spring is only accessible by a narrow footpath, but once reached it affords a scene of unequalled picturesqueness. The limpid stream, clear as crystal and delightfully cool, gurgles from the mossy hillsides, and is eagerly surrounded by the thirsty group, who quaff its pure waters with an avidity that could not be excelled if a fount had been discovered from which issued the nectar said to be sipped by the god Jupiter.

When sufficiently refreshed we next seek the "Old White Pine" tree, and as we approach it a solemn silence seems to steal over the hitherto merry party; for the rustling of the afternoon breeze among the evergreen boughs produces a melancholy sound like the sigh of a broken-hearted one mourning the loss of the heart's idol.

Fain as we would linger here for hours, the lengthening shadows admonish us that it is time to retrace our steps homeward, and ere long we are again at the residence of "Papa G——," as he is familiarly called. While the somewhat fatigued group is resting, animated voices rehearse the incidents of the afternoon, busy fingers are engaged in the artistic arrangement of the floral treasures, and when the members of the party finally separate, each one carries a fragrant little bouquet as a memento of the anniversary of the blooming of the Trailing Arbutus.

Miss M. E. Grimm.

Horticultural Societies.

NEW YORK HORTICULTURAL SOCIETY.

The May meeting showed that the interest of flower-loving New Yorkers in these exhibitions is not abating. The hall was crowded from the opening to the closing of the doors, and it was notable that the number of intelligent and discriminating visitors is steadily increasing.

The choice collections of Orchids exhibited by R. H. Rathbun, John S. Bush, Isaac Buchanan, Wm. White, and others, formed the leading attraction, especially a specimen of Dendrobium densiflorum from Mr. R. H. Rathbun, which measured three feet in diameter and had thirty-six large drooping spikes.

Geraniums were also in strong force and of excellent quality, notably among them the superb collections of Hallock & Thorpe.

Woolson & Co's collection of herbaceous plants was, as usual, a most attractive part of the exhibition.

The choice collection of New German Pansies, exhibited by B. K. Bliss & Sons, was much admired, and pronounced by many the best Pansies exhibited in New York.

A group of the new celebrated Lilium longiflorum floribundum, exhibited by F. R. Pierson, made a most effective show.

The following premiums were awarded:

For the best six Orchids, Amateur Class, to G. H. Bond, gardener to R. H. Rathbun.

For the best single specimen Orchid, Amateur Class, to G. H. Bond.

For the best six Orchids, Florists' Class, first, to John S. Bush; second, to Isaac Buchanan.

For the best three Orchids, Florists' Class, to John S. Bush.

For the best specimen Orchid, Florists' Class, to Isaac Buchanan.

For the best specimen Azalea, to G. H. Bond.

For Geraniums, as well as for Carnations, Hallock & Thorpe carried every one of the seven first prizes offered.

For the best six varieties of Amaryllis, to G. H. Bond.

For the best six Calceolarias, to Alfred Smith, gardener to Samuel Colgate.

For the best six Lilium longiflorum, or variety, to F. R. Pierson.

For the best twenty-five Hardy Herbaceous Plants, to Woolson & Co.

For the best design of Living Plants, to Hallock & Thorpe.

For the best display of Cut Flowers, first, to Hallock & Thorpe; second, to Charles E. Parnell.

For the best twelve Tender Roses, to Terrence Welsh, gardener to F. Goodrich.

For the best six bunches of Azaleas, to James Taplin.

For the best display of Pansies, to B. K. Bliss & Sons.

For the best six Liliums, to John Egan, gardener to Walter S. Gurnee.

For the best dish of Mushrooms, to Samuel Henshaw.

The discussion on "Steam Heating of Greenhouses," introduced at the previous meeting with the excellent paper of Mr. John Thorpe, was continued, and participated in by many who have practical experience in this method, and all agreed that, if properly arranged, it is the most economical, easiest, safest, and best system of heating large houses.

There will not be a meeting on the first Tuesday in June, but instead of it a Rose and Strawberry Exhibition on June 15th and 16th.

THE AMERICAN ASSOCIATION OF NURSERYMEN, FLORISTS, AND SEEDSMEN.

The seventh annual meeting of this Association will be held in the city of Rochester, commencing Wednesday, June 21st, at 11 o'clock A. M., and continuing three days.

It is hoped and expected that there will be a large attendance from all parts of the United States and Canada—Rochester being so accessible and so well known as a great center of the Nursery and Seed Trade. The objects of the Association, are: 1st, To afford the members an opportunity to cultivate personal acquaintance; and 2d, The discussion of subjects of practical interest to the trade. All who feel interested in the work of the Association are invited to attend and participate in the proceedings.

Specimens of Fruits, Flowers, Seeds, Plants, implements, etc., are solicited for exhibition.

It is expected that there will be an exhibition of Strawberries, Cherries, and Roses, with other Flowers of the season, held in Rochester during the meeting.

The following among other subjects will be discussed: New varieties of Fruits, Trees, Plants, etc.; Implements and Labor-Saving Devices; Methods of Culture, Grading, Packing, etc., Transportation, Taxation, etc.

Papers will be read by: Mr. Thomas Meehan; Mr. John J. Thomas; Mr. C. L. Watrous; Mr. Patrick Barry; Mr. C. L. Allen; Mr. S. D. Willard, and others.

This society, under the presidency of Mr. W. C. Barry, and the secretaryship of Mr. D. W. Scott, is doing excellent work in the interest of progressive horticulture, and all interested in trees or plants or landscape gardening will be sure to find the meeting both very pleasant and highly instructive.

Obituary.

JAMES VICK.

The news of the sudden death of James Vick, the celebrated seedsman and horticulturist of Rochester, brings sorrow and regret to many thousands of homes which have been made blooming and cheerful through his agency. No other man has ever done so much to promote the horticultural interests of our country and to develop a taste for the cultivation of flowers throughout the land.

From early childhood he had a decided love for flowers, and during the greater part of his life, he lived, he moved among them, inhaling their perfume with every breath. Flowers seemed to form part of his existence, and as they gave pleasure and happiness to him, he delighted to make others happy. The loss of but few men in private life will be as keenly felt and as sincerely mourned for. As an upright, liberal-minded business man, he was esteemed by all who had any dealings with him; but as a man of enlarged sympathies and high moral character, as a gentleman in the fullest sense of the word, he was held in the highest esteem by those who knew him best.

Mr. Vick was born at Portsmouth, England, in 1818, and came to this country when fifteen years old. He learned the printer's trade, and was employed in the office of the *Knickerbocker Magazine*, setting type with Horace Greeley. After several years' work in New York, he came to Rochester, where he worked as compositor in several newspaper offices, contributing meanwhile to the *Genesee Farmer*, of which he became editor in 1850. Three years later he purchased the *Horticulturist.* From 1857 to 1862, he edited the horticultural department of *Moore's Rural New-Yorker*, and it was while engaged on this that he began the seed enterprise which was destined to give him a world-wide reputation.

His illness was of short duration. He contracted a severe cold, which he did not regard as anything serious until he was prostrated by a severe attack of pneumonia, which proved fatal. He died on the 16th of May, in his sixty-fourth year. He leaves a widow and seven children. His four sons, who have been trained and educated for the business, will carry on the establishment.

GEORGE A. STONE.

With the death of George A. Stone the nursery trade loses one of its most esteemed and enterprising members, and all those who enjoyed his personal acquaintance an openhearted, sincere, and true friend. We recollect well when we first met him, at the last meeting of the Pomological Society at Boston, how his manly features and noble, gentlemanly bearing made him befriended with everyone.

Mr. Stone, although a young man, being not quite thirty-four years of age at the time of his death, was possessed of remarkable business talent and enterprise, and had already built up a business of gigantic dimensions. In his early youth, he lived in Oshawa, Canada, where he grew up in the dry goods business. Subsequently he became connected with Chase Brothers as salesman and afterwards partner. But not finding sufficient scope for his ambition, he commenced business for himself, and through his marvelous energy and ability has built up, within the short period of six years, a business employing four hundred salesmen, with nine branch offices in successful operation in various sections of the country.

We are informed that the business will be continued under the conduct of those heretofore associated with him, and in whom he had the fullest confidence.

BOOKS AND PAMPHLETS RECEIVED.

Farm Library No. 3, The Flower Garden, Part 2. *By E. E. Rexford.*—Herbaceous Plants, Shrubs, The Rose, Vines, Native Ornamental Plants, Arranging Yards, are treated in successive chapters, in the usual pleasant and instructive style of our esteemed correspondent. Published by E. H. Libby, Chicago.

Report of the Fruit Growers' Association of the Province of Ontario for the year 1881.—A fine octavo volume, ably prepared by the secretary, Mr. D. W. Beadle, editor of the *Canadian Horticulturist.* The book contains the president's address, several interesting district reports, and the discussions of the meetings during which many valuable papers were read, prominent among which are those on Grapes, by Mr. Beadle; Vegetables, by W. P. Page; Roses, by Mr. Buckle; Hardy Climbing Plants, by Mr. Wellington; New Fruits, by A. McD. Allan; Ornamental Planting, by W. C. Barry; Cranberries, by F. Trowbridge; Small Fruit Culture, by B. Gott. The Report of the Entomological Society is bound together with this, making the whole a convenient volume for reference.

To the Hills and Homes of Berkshire. *By Clark W. Bryan.*—A revised and considerably enlarged edition of a similar work published last year. In this very neat and beautifully printed pamphlet the author describes a trip through the Housatonic Valley. All the most beautiful and attractive points and sceneries are so vividly and charmingly portrayed that, in perusing the pages, one imagines the bright panoramic landscapes to pass before one's vision, which is made still more life-like by the excellent and artistic illustrations copiously interspersed throughout the pamphlet. To all intending a visit to that region, and to those even who do not contemplate a trip up the Housatonic, the reading of the work will afford much pleasure and instruction. Copies are sent free by mail upon application to H. D. Averill, General Ticket Agent, Housatonic R. R. Co., Bridgeport, Conn.

Experimental Work of the Agricultural Department of the University of Tennessee.—This Report of *Prof. J. M. McBryde* forms one of the most important contributions to scientific agriculture, published during the year. The larger part of the volume is devoted to experiments in Wheat culture, testing of different amounts of seed per acre, time for sowing, testing varieties, modes of seeding, preparation, modes of culture, commercial fertilizers, and farm-yard manures. These are followed by experiments in Oat culture; top-dressing on Clover and Grass; Indian Corn, Dhurra, Sorghum and other crops. This is but the second of these reports, and, of course, the conclusions arrived at are as yet not to be accepted as fixed facts, but every step in this direction, every judiciously planned and carefully carried out experiment is sure to bear its rich fruit in the not very distant future.

Michigan Horticultural Society; Eleventh Annual Report of the Secretary. *Chas. W. Garfield.* This handsome volume of nearly 400 pages is one of the most valuable and most carefully edited State Reports that have come to our table, and reflects deserved credit upon the society as well as its able secretary. It contains in addition to the proceedings of the meetings and exhibitions of the society, an interesting report of the State Commission to the last session of the American Pomological Society at Boston, and other valuable papers and essays on various horticultural topics. The "Secretary's Portfolio" forms a leading and distinctive feature. In this chapter a great many short communications and extracts from leading publications are given, all systematically arranged under various classified headings, constituting in themselves a good resume of the horticultural development and progress during the year. The fruit catalogue is compiled with much care and exactness and cannot but prove of great value to every fruit-grower in the State.

Report of the Connecticut Board of Agriculture and of the Experiment Station, both bound in one handsome volume. Secretary T. S. Gold's Reports are always valuable and highly acceptable; this last one is especially interesting, and in appearance as well as contents second to none of its predecessors. The plan of holding Farmers' Conventions in different parts of the State, as adopted by the Board, seems to work satisfactorily, and cannot fail to exert an excellent influence upon farmers and farming generally. This volume contains the transactions of the last meeting, held at Newtown, which was fully attended by farmers and others interested in agriculture, many of whom participated in the discussions. The principal papers read were by Dr. E. L. Sturtevant, on Agricultural Experiments: What we Want to Know, and Why We Want to Know It; Dr. E. H. Jenkins, on Commercial Fertilizers: Sources of Supply, and History of the Trade; W R. Hurd, on Ensilage; J. M. Hubbard, on Commercial Fertilizers: A Farmer's View of the Subject; Dr. Byron D. Halsted, on Fungi Injurious to Vegetation; J. B. Olcott, on Home Manufactures; Hon. B. G. Northrop, on Farmers' Homes; Edward Norton, on Associated Dairies; F. L. Scott, on Farm Life as it Was, As it Is, and As it Should Be; Prof. W. H. Brewer, on the Adaptation of Agriculture to the Improvements in Implements, Machinery, and Transportation. The Reports of the Pomologist, Mr. P. M. Augur, and the Account of Field Experiments, by Prof. W. O. Atwater, are replete with valuable information.

The Germination and Vitality of Seeds. *By Richard E. Kunze, M.D.* A paper read before the Torrey Botanical Club of New York. Accepting heat, air, and moisture as the factors in the germination of seeds, the author quotes a great many experiments to show that the period of the vitality of seeds depends upon the quantity of carbon contained in them. Thus it appears to be a fact that some seeds having an abundance of carbon, are capable of being preserved for ages, while others in which this element exists in but a small proportion require to be sown as soon almost as ripe, and others still more deficient in carbon lose their vitality before separating from the pericarp. A list of the average time of the germination of the principal horticultural and agricultural seeds is given, also the best means for hastening the germination of seeds otherwise tardy, and experiments about the germination of unripe seeds. Considerable space is devoted to the "Mummy Wheat" question, and several cases are quoted to demonstrate that seeds of great antiquity have germinated. Although these experiences are not admitted as conclusive proofs by botanists generally, it seems not impossible that under certain conditions, and in a climate in which pyramids, obelisks, and other monuments continue in perfect preservation for thousands of years, while under less favorable conditions they would long since have crumbled to pieces, seeds may likewise retain their vitality longer than elsewhere. The Pamphlet is published by the Club, and copies may be obtained from N. L. Britton, School of Mines, New York.

ANSWERS TO CORRESPONDENTS.

Apple-tree Borers.—*G. O. M., New York.*—There is no surer way to destroy the borers than to dig for them with a pointed knife and kill them when found. If they are high up they may be crushed with a wire pushed up into the holes. Coal ashes spread around the trees are beneficial. The wounded parts may be covered with a mixture of fresh cow-dung and clay.

Superphosphate of Lime for Cabbages.—*H. M., Upper Bedford, Province of Quebec.*—If the soil is in good condition and well worked, superphosphate at two dollars per hundred will pay, especially when used in connection with yard manure. It should be scattered broadcast at the rate of from five hundred to one thousand pounds per acre, and harrowed in before planting.

Floral Inquiries.—*E. S., Albany, N. Y.*—*Variegated Leaved Varieties* of plants, which, in the normal state, have green leaves, are generally chance sports which, by carefully continued selection, have become permanent.

Dwarf Forms of annuals originate generally in the same way, and also through crossing or hybridization.

The Tricolor Geraniums are not derived from the green leaved species, or Scarlet Geranium, but are either sports or descendants produced by cross fertilization of varieties of the Zonal or Horse-shoe Geranium which has originally a dark or discolored zone on the surface of its leaves.

Flower Seeds of several kinds are grown, to some extent, in this country, but, as with other crops, not all plants are equally adapted to every locality, and so is the moist atmosphere of Europe more favorable to the perfection and ripening of certain classes of flower seeds than our hot, dry climate. Another important consideration is the difference in the price of labor. Wages for this kind of work are so much lower in Europe than here that most seeds can be procured from there for considerably less than they could be produced here.

MISCELLANEOUS.

Remedies against Cut-worms.—*Prof. C. E. Bessey* says: Clean culture and fall plowing are the secrets of success in dealing with cut-worms.

Worm-proof Cabbage.—A correspondent from Fayette Co., Penn., says that the Early Schweinfurt Cabbage is the only variety that resists the green worm. Have others of our readers had similar experiences?

Black Orange Leaves.—*S. N., Elmira, N. Y.*—The ugly appearance of your Orange trees is probably caused by a fungus which may be readily removed by repeated washing with warm water and soap. The green fly and scale may be prevented by frequent syringing with a decoction of Quassia, four ounces of the latter to about one gallon of water.

Strawberries for Minnesota.—The Minnesota Horticultural Society recommended at its last meeting the following list of strawberries for general planting, given in the order of their value: Wilson's Albany, Charles Downing, Downer's Prolific, Green Prolific, Crescent Seedling; for general trial, Seth Boyden, Sharpless, Cumberland Triumph, Miner, Red Jacket, Pioneer.

Fay's Prolific Currant.—We have received from Mr. Geo. S. Josselyn, Fredonia, N. Y., for our specimen grounds, a two-year old bush of Fay's Prolific Currant, which in size and vigor excels any Currant of the same age we have seen. If the fruit grows in any way proportionate to the plant, the berries will have to be picked singly, like cherries, instead of in bunches.

The Cranberry Crop of 1880, the largest ever produced, is estimated by the New Jersey Cranberry Growers' Association to have been nearly half a million bushels for the entire country, being twenty-three per cent. greater than the largest crop on record. Of this amount New England furnished 247,500 bushels; New Jersey, 128,700 bushels; Western States, 113,430 bushels; New York, 3,000 bushels.

Our Exhibition Table has lately been beautified with a large and magnificent collection of *Seedling Zonal Geraniums* from Messrs. Hallock & Thorpe, of Queens, L. I. Mr. Thorpe has made the raising of seedling Geraniums almost a life-long specialty, and has certainly succeeded admirably in producing the most dazzling and varied shades, combined with the most perfect form we have ever seen in this class of plants.

A plate of *Bonnie Brae Lemons*, originated by Mr. H. M. Higgins, of San Diego, California, attracted considerable attention. This is a most remarkable seedling, of long, oval shape, ribbed similar to a Melon, with a very thin rind, few seeds, and a rich, aromatic pulp.

"The Lily."—*Lilium longiflorum floribundum*, as the Easter Lily of Bermuda is now called here, is making quite a sensation. A specimen which lately arrived on the steamer *Orinoco* from Jamaica is said to have had one hundred and forty-five blossoms, nearly all in full bloom, and borne on a stem three feet high and one inch in diameter. The prize specimen at the New York Horticultural Society had ninety flowers.

Ghent Azaleas.—*Subscriber, Newton, N. J.*—These are among the most beautiful and attractive lawn plants, either singly or in groups. As a foreground to a clump of Rhododendron, margined by still taller evergreens, they are very effective, and when sheltered against the bleak north and west winds they are perfectly hardy in this locality. Most varieties thrive in any good garden soil, yet an addition and occasional mulch of leaf-mold will be found beneficial.

Shirts for Everybody.—It is with pleasure that we draw attention to the advertisement of Mr. C. R. Quinby, Pleasantville, N. Y., the successor and former manager of the Newark Shirt Company. Incredible as it seems that so good an article could be furnished for so low a price, it is nevertheless true, and we know from personal experience that these shirts are first-class in every respect. We have known Mr. Quinby for many years, and feel confident that he will do what he promises.

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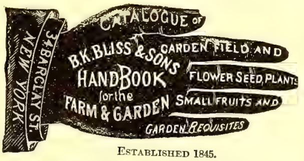

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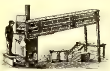

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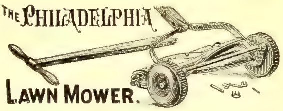

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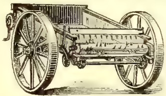

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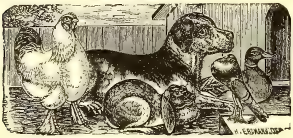
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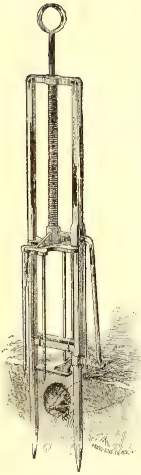
HALE'S

PATENT MOLE TRAP,

FOR DESTROYING

Ground Moles in Lawns, Parks, Gardens, and Cemeteries.



This is warranted to be the best and most complete Mole Trap ever invented, and is superior to all others in the following respects:

1st. Owing to the arrangements for holding the spring, it is easier set than any other trap.

2d. The construction of the trap is such that it will catch moles when quite deep in the ground.

3d. The points of the pins being constantly in the ground, it cannot catch or injure little chickens, or any domestic animals.

4th. Cannot be blown over by the wind, or injured in any manner by rain or storm.

5th. Cannot "startle" or injure the operator by springing while being set.

6th. The ground not being disturbed in any way, it can be set very close to small plants or flowers without injuring them; it can also be set touching a wall, fence, etc., without impairing the working of the trap in any way.

7th. It is very light, neat and durable, and being made entirely of metal, cannot warp, twist, or get out of order.

8th. There being no pin or other obstruction projecting into the run, there is nothing to disturb or frighten the mole until caught.

Price, $2.50 each.

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B. K. BLISS & SONS,
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SULPHUR BELLOWS.

Or Floral and Vintage Flour of Sulphur Duster.

For the EXTERMINATION OF BUGS, WORMS, and all INSECTS; likewise MILDEW UPON GRAPE VINES. By the use of this implement the Flour of Sulphur can be evenly distributed over every part of the affected plant. Price, $2.50.

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HAMMOND'S
SLUG SHOT.

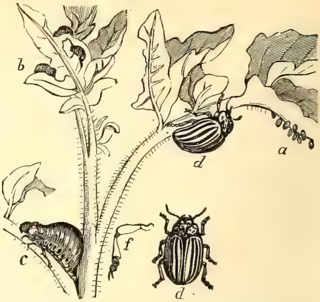
A guaranteed exterminator of the Potato-Beetle.

It is an impalpable powder, combining fertilizing properties with poison destructive to the Potato-Bugs in the various stages of growth; at the same time the ill-effects of **Paris Green,** or danger from having it around in quantities, are lessened. Cattle or swine are not likely to touch it. It has been used with success in destroying Caterpillars, etc., from Pear and Apple Trees, on Egg-Plants, etc.

Many large potato-growers are now using it exclusively, and find it cheaper and more convenient to apply than any other insecticide in market, in addition to avoiding the trouble and danger of mixing poisonous substances.

Put up in barrels of 200 lbs. in bulk, $7.50 per bbl. Packages of 5 lbs., 30 cts.; 10 lbs., 50 cts.; 15 lbs., 75 cts. Cannot be sent by mail. Prices to the trade given upon application.

Manufactured by B. Hammond & Co., Mt. Kisco, N.Y.



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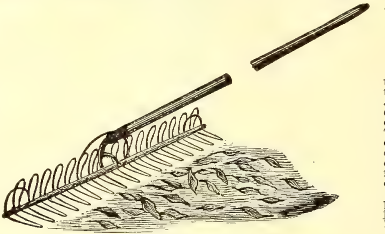
Made in the Most Thorough Manner, of the Best Material, Best Quality of Spring Steel Teeth.



A PERFECT IMPLEMENT FOR CLEANING LAWNS FROM LEAVES, GRASS, AND ALL KINDS OF RUBBISH, AND THE ONLY ONE THAT WILL DO IT WITHOUT INJURING THE GRASS AND ROOTS.

Will level and prepare a garden bed for the seed better and quicker than any other tool. Will clean a race-track perfectly. Just the thing for ladies wishing open-air exercise. A man with one will do the work of six or eight men in a superior manner. The work is light and easy, as the rake is drawn over the ground instead of being carried. *Landscape gardeners will use no other after trying this.* Grass will grow faster and look much better after being combed a few times with the rake.

It requires many years of great care to produce a fine Lawn, which may be injured, and perhaps ruined, in a short time by using common rakes. Price, $1.00.

Patented December 17, 1878. For sale by

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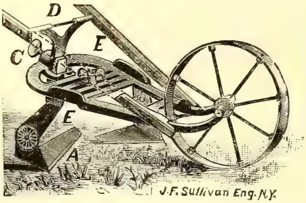
RUHLMANN'S WHEEL HOE

Is the Best, Simplest, and Most Perfect Weeder in use.



It will do the work of 8 men with the common hoe. Embraces all points requisite to make a capital tool. The Handles can be raised to suit. Knife Blades set to any pitch, and from 7 to 16 inches in width, and when in working order is firm and strong, with nothing to become loose or shaky. This implement has not only given entire satisfaction, but is pronounced unequaled by all who have given it a fair trial. For the interest of all we can safely say that no one will ever regret having given it a thorough trial. For Onions, Carrots, Beets, and all Garden Crops, it has no equal. It has, in a short time, become the leading Tool in this and other countries. To show our confidence in this excellent tool, we will refund price paid if satisfaction is not given with its work—purchaser paying freight to and from. Leading Gardeners and Seed Growers all use it, and would not do without it. For sale by the following:

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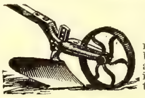
Ferry & Co., Detroit, Mich.; Vick, Rochester, N. Y.; Gregory, Marblehead, Mass.; Crosman Bros., Rochester, N. Y.; J. C. Vaughn, Chicago, Ill.; J. A. Simmers, Toronto, Ont.; Chase Bros., Rochester, N. Y.; D. Landreth & Sons, R. Buist, Philadelphia, and many others.

3-4-5 Price, boxed, $5.50. Manufactured by E. RUHLMANN, Lockport, N. Y.



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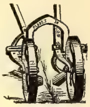
In preparing our new goods for 1882, we have added to our list a number of ingenious and successful GARDEN TOOLS, so proven by numerous tests this year. We are also getting ready a much larger and more complete descriptive catalogue than any we have heretofore issued. This will be full of valuable information to every one who tills the soil for profit, and will be mailed free to all who apply now to



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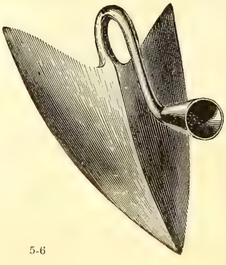


WARREN HOE.

It is perfectly adapted for Field, Nursery, or Garden. Is *superior* to any other hoe at all work for which a hoe is intended, such as Pulverizing, Planting, Hilling, Weeding, Scraping, Chopping out, etc. They are made of *Solid Cast Steel, with Trowel temper*, and warranted not to break with fair usage. No farmer or gardener can afford to do without them, and spend their time and strength on the old hoe. You may not like the looks of them at first, they being so different from the hoe we have been using for thirty years; but use it until you become accustomed to it, and twice its cost will not get you to do without.

It has two sharp edges on either side, extending to the point, making a cutting surface of 16 to 18 inches.

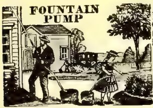
Has a *draw cut* on the principle of a scythe, or as you would hold your knife or any cutting tool, and cuts to the *best* advantage.

Will scour in *any soil*, because it has curves like the mold-board of a steel plow.

Cannot well break, as central ridge is great support.

Prices, No. 1. Ladies' and Garden Hoe, $1.00 each; No. 2, Garden and Field Hoe, $1.25 each; No. 3, Field Hoe, $1.25 each.

5-6 *B. K. BLISS & SONS, 34 Barclay St. New-York.*



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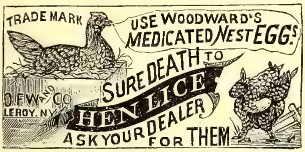
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A valuable Book of over 200 pages solid Reading Matter, from the pens of the best writers of the day, devoted to the Interests of Farmers, Stock-Breeders, Poultry-Fanciers, Dairymen, Bee-culturists, Gardeners, The Fireside, etc.

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PICKLE SEED
OF SUPERIOR QUALITY.

All the leading varieties pure and true to name, raised by the most experienced pickle-growers in the country.

	Pkt.	*Oz.*	*¼lb.*	*lb.*
Green Prolific,	**10c.**	**20c.**	**40c.**	**$1.25**
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If to be sent by mail in quantities of 4 ounces and upward, postage must be added at the rate of 16 cents per pound.

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Ten to fourteen days earlier than any other variety.

This desirable variety was first introduced by us in 1878, and has since been thoroughly tested in all parts of the country, and has proved to be ten to fourteen days earlier than the ordinary variety,—grown alongside of them,—and fully equal in productiveness and quality. For this reason it can be strongly recommended for cultivation in the Northern States, where the old variety cannot be grown.

½ pint packets, 15 cents; pint, 55 cents; quart, $1.00, by mail, post-paid.

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On account of their size, cannot be sent by mail.

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Peerless Hammock Attachments,

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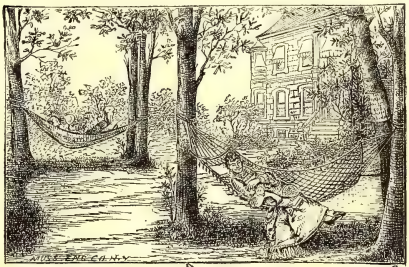
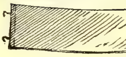
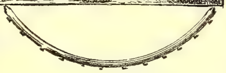


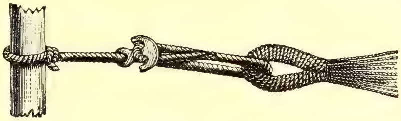


PILLOW.



SPREADER.

Anchor Hammock Ropes.



Patented May 3d, 1881.

Avoid tying and untying knots. Rig up your Hammock with this new device. It is the simplest and best contrivance ever offered for the purpose.

The Hammock can be adjusted to any height by sliding the anchor up and down the rope. This will lengthen or shorten the rope and hold it secure in the length to which it has been adjusted. The anchor operates on the rope as a friction clasp and slide, and as soon as weight is placed in the Hammock the anchor will bite on the rope and insure positive safety in sustaining the Hammock.

The Hammock can be rigged up and taken down in an instant without tying a knot.

The Spreaders are made from hard wood, bent bow-shape. They are provided with hooks on the lower edge, which fasten into the netting of the Hammock and hold the *Spreaders* firmly in position. These *Spreaders* are placed at each end of the Hammock, as shown in cut. They are readily removable for stowing the Hammock conveniently away.

The Spreaders keep the Hammock open like a cot, and remove its cramping propensities entirely.

The Pillow consists of a strip of cotton duck, 18 inches long and 6 inches wide; it is provided with a hook at each end, and is shorter than that part of the Hammock over which it extends, so that it will be drawn taut when the Hammock is properly suspended, and thereby elevated above the central part of the Hammock, constituting thus a yielding head-rest.

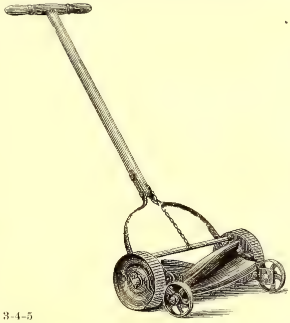
The Pillow is a cool, comfortable head-rest, and will be found a great acquisition to the Hammock.

Spreaders, per pair,	$0.50
Anchor Ropes, per pair,	.50
Pillows, each,	.25
Saratoga Hammock, each,	3.00
Mexican Hammock, white,	2.00
Mexican Hammock, colored,	2.50

They can be applied to any Hammock.

Manufactured by TRAVERS BROS. 107 Duane Street, N. Y.

THE DAISY LAWN MOWER.



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Finest Finish,
Handsomest and most Durable Side-Wheel Mower in the Market.

Interchangeable in all its parts. Every Machine unconditionally Warranted. It has an adjustable vibrating handle, and is perfectly adapted for cutting Terraces, Slopes, and every variety of Lawn.

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Send postal for descriptive pamphlet. Every bag plainly branded and a tag attached, giving full analysis and directions for use, etc.
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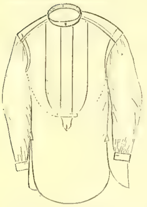

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REAL GOOD, PERFECT FITTING, LINEN BOSOM,

SHIRTS

FRENCH YOKE, RE-ENFORCED OR DOUBLE SIDES.

MADE TO ORDER FOR ONE DOLLAR ($1.00) EACH.

The material used for body and sleeves is **Wamsutta Muslin**, the bosoms are fine **Irish Linen**, three-ply and shield-shaped. The wrist-bands, neck-bands, and tabs are faced with fine **Linen**.

THESE shirts are *open backs*, and without collars. Open-back shirts fit the best and wear the best, and they are more easily done up. Gentlemen who try them will never wear any others. They are all well sewed on Wheeler & Wilson sewing-machines, and are not "partly made," but are completely made and finished throughout—gussets, buttons, button-holes, and all. They are, in fact, all ready to wash and wear, and in perfect good faith I warrant the shirts to be fully up to my representations, and better shirts for the price than have ever been sold before.

The price is so much less than has ever been asked for the starched and polished shirts universally sold, that people can readily perceive that they have been paying at the rate of ten dollars a pound for starch, as used in shirts; and this is not all—the starch, they can see, has been used to conceal the coarse fabric and bad work. These shirts are free from starch; they are sent just as they come from the work-room, with material and workmanship open to inspection.

How I can afford to sell so good an article for so small a price—less than the usual cost of the bare materials—is a problem which has puzzled many of my patrons. Yet it is not so difficult to explain and understand. I manufacture in very large quantities; use the latest and most improved labor-saving machinery; my small expenses—no extensive city store, elaborate show-rooms, and expensive salesmen—and, furthermore, the entire business is strictly on a cash basis. I buy all materials for CASH, I pay my help promptly in CASH, and I sell my goods strictly and only for CASH.

Again, it must be remembered that in dealing with me my patrons save all the intermediate profits charged by the different merchants and middle-men before reaching the consumer. The goods literally go "*from the work-room to the wearer.*" Thus can I sell my wares for so small a price, and yet make a profit, for I do not put forth the shallow pretense that I am selling at or below cost for the purpose of introducing my shirts, etc., but I sell them at my advertised prices and make a profit—a small profit, true, but the large aggregate amount of my business makes the profit satisfactory. Those who may have doubts of the correctness and honesty of my representations are invited to send for a sample, stating size of collar usually worn.

"The Price Tells,
And Everybody Tells the Price."

One Dozen by express, $12.00
Half " " " 6.00

And at same rate for a greater or less quantity.

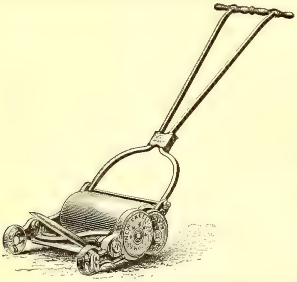
Samples will be sent by mail, post-paid, for $1.15, for any quantity.

My customers need have no fear that the shirts will not reach them safely by mail. The losses by mail have not averaged one parcel in a thousand. Samples of the material used and instructions for self-measurement will be sent free.

Remittances may be made by P. O. Money Order, Bank Check, or Draft to my order on New-York, or money in Registered Letter. Postage stamps will be accepted for moderate amounts.

If your order is to go by express, please state the express company you desire the goods to be forwarded by.

All Orders or Communications should be sent to **C. R. QUINBY, Pleasantville Station, Westchester Co. N. Y.**



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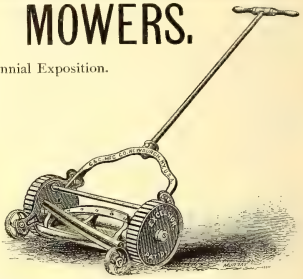
Received HIGHEST AWARD at the Centennial Exposition.

Features for the Season of 1882.

Lightest in Weight,
Lightest in Draft,
Simplest in Construction,
Most Durable, and
The Best.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EXCELSIOR
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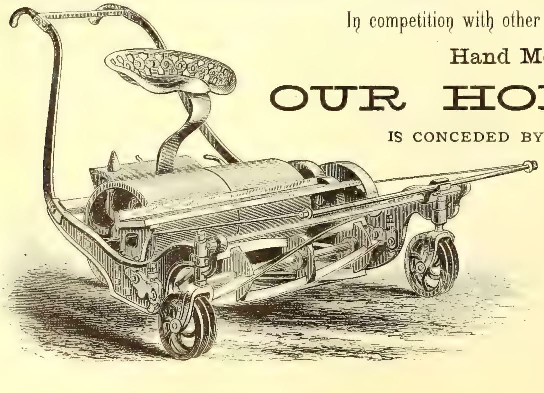
USED ON PRINCIPAL PARKS IN EUROPE AND AMERICA.

In competition with other Mowers have always carried off the Prize.

Hand Mowers, 8 to 20 inch.



OUR HORSE MOWER

IS CONCEDED BY ALL TO BE THE BEST ONE MADE.

Sizes, 25 to 40 inch.

All our Mowers are fully warranted. A trial is solicited. Full directions for setting-up, adjusting, and using accompany each Mower.

For catalogues and prices, address

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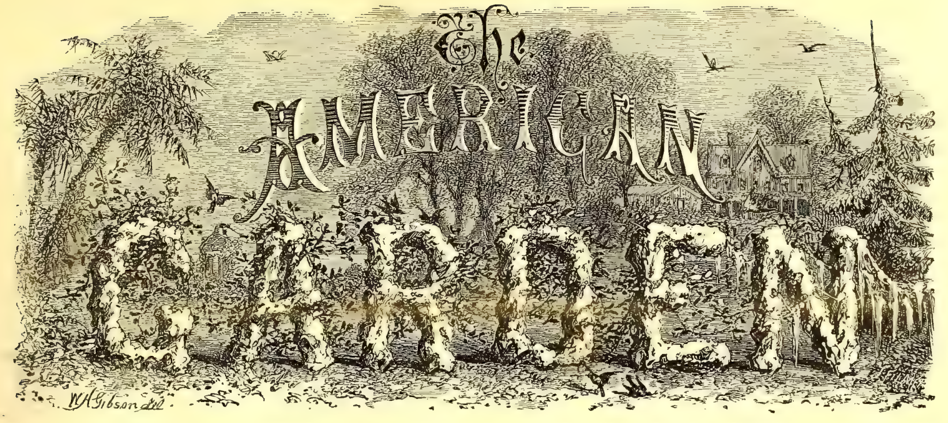

Vol. III. NEW YORK, JULY, 1882. No. 7.

The American Garden.

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FOR JULY, 1882.

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PLEASURES OF THE COUNTRY.

Many of our city friends who are now spending a few weeks in the country will, no doubt, find the time hang heavy, sometimes, and the hours pass too slow. They miss the accustomed morning paper, the excitement of business, the friendly call of a neighbor, and the facility and ease with which one's every want almost can be gratified in the city. Yet, for the absence of these comforts, life in the country need not be dull and monotonous if only we do not expect to take the city with us. To enjoy life in the country we must leave the city behind: its comforts and pleasures, as well as its heat and dust and vitiated air.

To any one whose inborn natural taste has not been entirely eradicated by long city life, the country offers an inexhaustible fount of enjoyment. Thousands of beautiful and interesting objects, living and inanimate, surround us everywhere, waiting for our notice. Graceful Ferns and delicate Mosses overhang and line the babbling brook which restlessly winds its way through the shaded glen; bright flowers of many hues make gay the roadside and the fields; mollusks, fishes and an endless variety of other aquatic animals enliven every lake and stream, while myriads of brilliant butterflies and gayly plumed birds flit through the air.

It is not necessary to become a scientist to be able to enjoy Nature's wonderful creations. All that is needed is the habit of observation, and this may be acquired without teacher or text-books. When we once commence to take an interest in observing and examining flowers and plants and other natural objects, we are led on step by step, opening and creating for ourselves an unlimited field of inexhaustible fertility, from which we may draw pleasure and enjoyment at will.

WHAT IS A FRUIT?

This question is asked by a correspondent, adding the apology of—Excuse this stupid question.

Now, this is not as stupid a question as it may at first sight appear. Botanically speaking, a fruit is the seed of a plant and all that surrounds it—the *pericarp*. But, when it comes to a pomological or horticultural definition, we are at a loss. Musk and Watermelons are generally spoken of as fruits, yet they are not enumerated in the catalogue of the American Pomological Society, nor are they mentioned in any work on fruit-culture, while in all seed catalogues they are classed among vegetables. If Melons are fruits, why not Tomatoes, and if Cucumbers are vegetables, why not Melons, their near relatives, their own sisters, botanically speaking. On the other hand, if we accept that fruits are eaten raw, how about the Quince, which is called a fruit, although it is never eaten raw.

Who can give a satisfactory definition?

WRITING FOR THE PRESS.

A reader who kindly offers to write for the AMERICAN GARDEN wishes to be informed about the "rules of writing for the Press," before sending his communication.

Well, our notion about writing for the Press is: If you have anything to say, say it; and when you have said it, stop. If you haven't anything to say, don't say it.

FRIENDLY WORDS.

THE AMERICAN GARDEN is a monthly illustrated journal devoted to the gardening interests of America. It is a paper that every man who pretends to make a garden produce vegetables for his family should have. Our truck gardeners, most of whom are novices in the business, would find it a great help to them; fruit-growers, also, would find its seasonable hints valuable. Much useful information is given to those who are fond of the cultivation of flowers. Any questions in regard to any of these arts are promptly answered in its columns, and altogether it is a journal that all heads of households will find invaluable. Beside being furnished at the cheap rate of $1.00 a year, every subscriber is given a premium of a package of seeds.—*Barnesville Gazette.*

FOR FIFTY CENTS

THE AMERICAN GARDEN

Will be sent from now to the end of the year.

Ask your neighbor to give it a trial.

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The Vegetable Garden.

SEASONABLE HINTS.

At this season of plentiful harvests of early vegetables, preparations for a supply during autumn and winter are frequently neglected; and yet the economic, as well as hygienic, value of winter vegetables, continuing through two-thirds of the year, is much greater than that of summer vegetables, lasting generally but a few weeks.

Vegetables for Winter use.—Beets, Carrots, Parsnips, Turnips, and all other root crops, when sown early in spring lose much of their flavor and tenderness before they can be stored away in the cellar, and become more liable to rot than when sown later. For all such vegetables, when keeping and eating quality are the considerations, the early part of July is not too late for sowing, and with Turnips the latter part of the month is early enough.

Early Varieties of most kinds of vegetables may still be sown, with the assurance of obtaining good crops.

Liquid Manure is, except in market gardens, but little used, and yet there is nothing that gives growing vegetables and other plants such a rapid and healthy stimulus, and which at the same time may be obtained so cheaply. On ground that has not been well enriched before planting nothing can take its place, and its favorable effects are often perceived within twenty-four hours after application.

Waste Water from the kitchen and house, which otherwise often proves but a nuisance, may be utilized to good advantage for watering plants. Soapsuds contain also considerable fertility.

Egg Plants are among the most tender garden vegetables, and their culture presents always more than ordinary difficulties to the amateur gardener; since the advent of the Colorado Potato Beetle their raising has become still more discouraging. The beetles are so extremely partial to every part of the Egg-plant that to hand-pick, with any hope of being able to conquer them, would require more frequent pickings than most people could afford or would be inclined to give, and the applications of the poisonous substances used for the destruction of the beetles on Potatoes can hardly be advised in this case, at least not after the forming of the "eggs." The safest and at the same time an easy mode to protect the plant is to construct a light frame along the rows and to cover the whole with coarse mosquito netting, taking care to hold it firmly to the ground with boards or sticks, to prevent the beetles crawling under.

Digging Potatoes.—There is a good deal of uncertainty about the best time for digging Potatoes. Some are in favor of digging as soon as the tubers become ripe, to prevent them from rotting in the ground; others hold that if the germs of the rot are in them they will rot any way, and that they prefer to let them rot in the ground than in the cellar. We have tried both ways, and with varying results, and have come to the conclusion that to raise good keeping Potatoes, they should not be planted so early as to mature during midsummer, but so as to bring their ripening after the greatest heat is past; and the tubers, when dry, may be brought directly into a cool, dry cellar.

MARKETING VEGETABLES.

Farmers who visit our city but seldom, would be surprised to see the large quantities and the many varieties of vegetables shipped to our market.

In the fall we send large quantities of Potatoes to Bermuda, and by the first of March the crop raised from them is returned to us, all of which is colored by the soil there to a light red. Bermuda Potatoes are shipped in barrels and are among the best received from any section.

About the same time Bermuda sends us also large quantities of Tomatoes, which are singly wrapped in paper, then packed into small crates which contain about four quarts. Onions are grown in large quantities there, and are packed in bushel crates. These are much milder to the taste than our eastern Onions, and are very popular with the lovers of this savory vegetable. It is not unusual that a steamer arrives loaded entirely with these three articles.

Following closely the arrivals from Bermuda, we receive Peas and Beans from Florida, Kale and Spinach from Virginia, and, in due time, Peas, Beans, Asparagus, Tomatoes, Cabbage, Cucumbers, and Potatoes from various Southern States. Maryland and Delaware send mostly Peas, Potatoes, and Asparagus.

New Jersey furnishes us the finest of Celery, Green Corn, and Lima Beans.

Long Island is noted for its varieties and good qualities of Peas, Beans, Tomatoes, Rhubarb, Egg-plants, Asparagus, etc., and, later, Potatoes and Cabbages.

Onions are mostly grown in New York and Connecticut, the latter being especially valuable on account of their keeping qualities.

Modes of Preparing.— To the uninitiated this may appear as a matter of not much importance, yet the price of all vegetables and fruits depends not less upon the neat and proper manner of putting them up than upon their quality and freshness. Rhubarb have their large leaves removed; are then tied in bunches ranging from three to six stalks, according to their size. Egg-plants are at first sold by the dozen; later in the season by the barrel. Celery is prepared by cutting the roots to a pointed square, then by a network of strings made to resemble a fan; then finished by drawing the tops together and tying. Lima Beans, in pods, by the basket or bag; shelled, by the measure. Asparagus is tied in bunches ranging from two to three pounds in weight. Cucumbers, at first, by the bushel crate; when plenty and cheap, by the barrel. Pickles by the thousand, the size determining the price. Hot-house growth only by the dozen. In the late winter and early spring Water-cress meets with ready sale, packed in baskets containing about eight quarts. This is used largely in oyster saloons, instead of Cabbage. Early in the season, Turnips, Radishes, Beets, Carrots, Salsify, Parsley, etc., are sold in small bunches; later, by the barrel, except the Parsley, Radishes, and Salsify, which are always bunched; Pumpkins, by the hundred; Squashes, by the barrel; Cauliflowers, by the dozen; Parsnips, by the barrel, and Horse-radish by the pound. Okra or Gumbo while green, by the hundred; when dried, by the pound. Green Corn by the hundred, with a tally of five on each hundred. Tomatoes by the basket or bushel.

C. W. IDELL.

PLANTING CELERY.

The old method of planting Celery in deep trenches has been almost entirely abandoned for the other extreme of setting the plants on level ground. Many who have tried both plans are now adopting a happy medium by planting in shallow furrows, about four or six inches deep, made with the plow or hoe. But little time is required in making these furrows, while much labor is saved in hilling up, providing at the same time a safeguard against drought.

In either case it is of the utmost importance to have the entire ground well enriched and worked thoroughly. To have crisp and tender stalks, Celery must be kept growing continuously and rapidly, else it will become tough and stringy and insipid. In dry weather an occasional application of manure water will be found exceedingly beneficial.

A frequent mistake made by those who are over-anxious is to hill up too early. The plants should be well established and should have made a good growth before they can bear the strain of having the greater part of their leaves buried. During hot, wet weather especially, there is danger of rotting, if hilled up too soon. For winter use there is nothing gained by banking up before cool weather sets in.

LIMA BEANS.

The great value of the Lima Bean, for summer as well as for winter use, is everywhere gaining for it increasing popularity. The principal difficulty in its culture is to produce it early enough, as the plant is very tender and cannot be planted before permanently warm weather sets in.

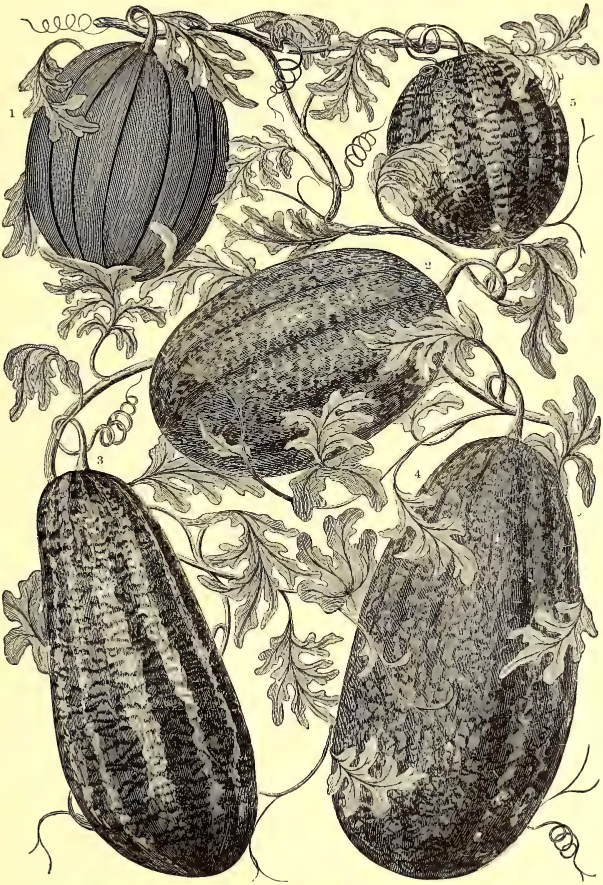
Mr. B. G. Smith, who has been very successful in the cultivation of this vegetable, communicated to the Massachusetts Horticultural Society his method, which consists in sowing the seed about the middle of April (being careful to place the eye down), in what are known as "cucumber boxes," filled with loam, five seeds in each. The boxes are without bottoms, six inches in height, seven inches square at the top and eight inches square at the lower part, and are made of half-inch stuff. They cost six dollars and a half per hundred, and his have already been in use ten years. He was the first to use them to forward Lima Beans, and finds them invaluable for this purpose. When the Beans are planted the boxes are placed in the cold grapery. When the plants are about two feet high, the ground is prepared and the poles are set out, and a hole large enough to receive the box is made at the foot of each. A box is then lifted on a shovel, placed in the hole and the shovel withdrawn. The box is then removed by lifting up; the object of making the top an inch smaller than the bottom being to permit this.

It is not advisable to set out the young plants before the first of June, but this is as early as the seed can be planted out-doors, and by forwarding in this way five weeks can be gained, and the beans can be had fresh from the garden from the middle of August to the middle of October.

The Lima Bean is a tropical plant and requires a long season. Any surplus can be dried for winter use, and when soaked can hardly be distinguished from fresh beans. In saving seed the earliest beans should be carefully selected.

GROWING WATERMELONS.

The Watermelon is one of our most popular and well-known vegetable fruits, and one that is universally esteemed during the latter part of our summer season, for its rich, abundant, cooling juices. It is a vine of vigorous growth, and is extensively cultivated in certain localities; but, singular as it may appear, most persons consider it rather difficult to cultivate, and, judging from the inferior specimens which they produce, one might suppose such to be really the case. But this is a very serious mistake, for no fruit is of easier cultivation than the Watermelon. It will grow in almost any soil, yet thrives best in one that is light and rich, with a warm, sunny exposure.



GROUP OF WATERMELONS.

The proper preparation of the soil is also an important consideration. The ground should be plowed or dug thoroughly and deeply, and if the plow is used a good harrowing should also be given, in order to break up all lumps. The hills should be eight feet apart, and be prepared by digging a hole about one foot deep by two feet across, and placing in it one-half bushel of well-rotted manure, in which some bone-dust has been well mixed. Upon this place five inches of soil, and mix the whole as thoroughly and deeply as possible. Firm this hill down well with the spade or fork, and then cover it with three or four inches of finely broken soil; in this place ten or twelve seeds on their edges, and cover to the depth of half an inch with fine soil. When the plants have become strong and well established, all but three or four of the most promising should be removed.

Where early Melons are desired, the seed should be sown in three-inch pots, or on inverted sods, in a hot-bed, about the tenth of April. The plants should be gradually hardened off, and planted out when all danger of frost is over; or the seed may be planted in the open air, at any time after the first of May, if given the protection of a hand glass.

Dust a little soot, lime, or wood-ashes on the plants while young, and when they commence to run lay the branches out evenly, so that they can cover the entire ground. Keep them clear from weeds at all times. If the ends of the leading shoots are occasionally pinched back, the plants will bear more freely, and if some fruit is removed the remainder will considerably increase in size.

There are numerous varieties of Watermelons, some twenty or more varieties being enumerated by our seedsmen, but for amateurs the following will be found the most suitable:

Black Spanish. No. 1.—This is an old variety, but is not as extensively cultivated as the other sorts. The fruit is of a round shape, and is rather small in size. It also has a very thin rind and a rich, sugary flavor.

Phinney or Early Oval. No. 2.—This is the earliest sort, and is very prolific, the fruit being of moderate size, with bright red flesh, and is of fine flavor.

Mountain Sweet. No. 3.—Is the most productive, and is one of the best, as well as the most extensively cultivated variety. When well grown the fruit will attain a large size. The flesh is red, sweet, and of excellent flavor

Mountain Sprout.—This variety is not as early as the sorts previously mentioned, but the fruit will keep until quite late in the fall.

Gypsy. No. 4.—Oblong, light green, mottled and striped with white; flesh scarlet, very solid, and of delicious flavor.

Cuban Queen.—A variety recently introduced, and remarkable for its very large size, combined with excellent quality.

Ice Cream.—This is considered, by some, one of the most delicious. It is of medium size and is almost round. It also has a thinner rind than most of the other sorts, the flesh is of a bright crimson color, and has a very rich, sweet flavor. Of this sort we have two varieties, differing mostly in their shape and the color of their seeds: one being round in shape, with white seeds; the other long, with seeds of a gray color.

Orange.—This is an entirely distinct sort, being peculiar in that the divisions of its flesh peel from the rind like an orange; it separates into segments in a similar manner. The fruit is of medium size, oval shape, and of excellent flavor.

The Citron. No. 5.—Is used for preserving only, and is well known to all. It may be sown in the open air, as it is hardier than the other varieties.

CHAS. E. PARNELL.

FORCING PEAS.

After having tried all the best varieties of Peas, Mr. J. Clarke says, in the *London Garden:* "The American Wonder Pea is a valuable variety either forced or out-of-doors. It is earlier and more prolific than any kind with which I am acquainted. I had, in April, fifty pots of it literally covered with pods, in different stages. They were sown on the 8th of February, and were under cool treatment until they had fairly started; then they were subsubjected to gentle forcing, and the result was most satisfactory. When better known this variety cannot fail to be a favorite."

EASY WAY TO GROW POTATOES.

It is stated that a favorite mode of growing Potatoes in Florida is to place the seed in trenches and fill up with thatch. The covering is removed from time to time and such of the new Potatoes as are large enough are picked out, and then the thatch is replaced.

The Fruit Garden.

SEASONABLE HINTS.

Strawberries.—Immediately after the picking season all mulch should be removed from Strawberry beds, the ground well stirred and freed from all weeds. The application of composted manures or concentrated fertilizers at this time is especially desirable, as now, after the exhaustive strain of the bearing season, the plants are more enfeebled than at any other time of the year. The ground should be kept light and loose, and free from weeds throughout the summer.

If new beds of potted plants are to be made, the ground should be prepared without delay by repeated spading or plowing, and enriching of the soil.

Blackberry and Black-cap Culture have latterly suffered a serious check by the appearance of the "Raspberry Rust," which attacks not only the cultivated but also the wild plants. This trouble, which appears in orange-colored patches on the under side of the leaves, and spreads gradually over the entire bush, is a parasitic fungus—a minute microscopic plant which has grown through the substance of the leaves in fine threads. These filaments finally come to the surface in masses, forming patches, and then develop the thousands of minute orange-spores, giving the peculiar color to the infested foliage.

This rust is a rapid-growing pest, and has its course of destruction so nearly run when it shows itself that there is no known means of stopping it after it has once begun its work.

It is to be remembered that the yellow powder that dusts upon one's hands and clothes from infested leaves is the spores or minute bodies, by means of which the rust plant is propagated; therefore the destruction of them is a precautionary measure. So soon as a bush is found affected, the best way is to cut it down and burn it at once. The whole bush is usually attacked, therefore do not try to save any part of it; better clear the ground of a useless bush, and at the same time destroy a multitude of spores that would otherwise find their way, by means of the wind, etc., to other bushes, and then propagate the pest.

Mulching.—All trees and shrubs set out during the fall and spring are benefited by mulching during the midsummer months. A good mulch is far better than watering, as it serves not only to keep the soil moist, but it helps the tree also by keeping the ground cool; it prevents the baking of the surface and supplies fertility. Even stones placed around newly set trees are better than nothing; leaves, straw, weeds, rakings from the lawn or garden—any light, loose, vegetable matter will do. Strong, fresh stable manure, however, should be avoided. Transplanted trees, like patients with amputated limbs, need nursing rather than overfeeding and stimulating.

Currants and Gooseberries, old as well as young, are generally benefited by mulching. Coal-ashes cannot be used to better advantage than by spreading them around Currant-bushes.

Pruning.—Young trees looking yellow and sickly at this season, may often be saved by severe pruning of all their branches.

STRAWBERRIES.

When swallows build beneath the eaves,
There grows, deep hidden under leaves,
Near to the ground, retiring, shy,
Tinged with the summer's earliest dye,
With bright complexion—healthy—clear—
The fairest berry of the year,
The Strawberry amid the green,
The luscious fruit, the jeweled queen.

Happy is he who, now and then,
Can wander from the marts of men,
To prune his trees, to trim his walks,
To lift his Roses' drooping stalks;
Or, with his wife and children fair,
Eat his own fruits in open air,
And watch, well pleased, their bright eyes gleam,
To feast on Strawberries and cream.

The happy lark is mounting high;
Her anthem quivers through the sky,
The wind upon the tree-top swells;
Below it rocks the Lily-bells;—
The fruit is pluck'd—the cloth is laid—
They sit together in the shade,
And share a feast whose luxury pure
Might tempt the richest epicure.

E'en those whose harsher fate detains,
By care, or toil, or money-chains,
In smoky precincts of the town,
Far from the garden, field, or down,
Who, bending over desk severe,
Scarce know the changes of the year—
Partake, O June! thy blessings shed,
And love thee for thy berries red.

Sweet are the Grapes that bloom by Rhine,
Sweet are the eastern Date and Pine;
Sweet are the Oranges that grow
Where Guadalquiver's waters flow;
Sweet is the Apple—sweet the Pear—
The blushing Peach—the Cherry fair;
But bright and beauteous though they be—
Give me, oh give, the Strawberry.

CHARLES MACKAY.

THE PEAR CROP.

The crop of Pears in the vicinity of New York will be very light this year, with the exception of a few varieties. Last year Bartletts were unusually abundant. Every tree, young or old, capable of bearing, was over-laden, and even with intelligent thinning of the fruit by careful cultivators, the heavy tax on the trees of bringing the crop to maturity through the protracted drought, which lasted one hundred and twenty days in our section, the fruit spurs formed for this year were few and weak. In consequence, this spring there were only a few scattering blossoms here and there on the tops of the trees, and the yield will fall far below anything we have had in several years. It is so small in my own orchard that it will not come under the rule of a tenth. And my neighbors are no better off than I am in this respect.

The Beurre d'Anjou "set" better, and for three or four weeks looked very promising for an average crop. But this variety has, within the past two or three weeks, shed a large part of the "set," and now the appearance is anything but flattering for a good crop this year.

Other varieties, including the Seckel, Louise Bonne de Jersey, Beurre Clairgeau, Doyenne Boussock, and Lawrence, are well set with fruit, and now promise to yield a fair crop of Pears. None of these, with the exception of the Seckel, have a heavy set on. The last named is carrying more than should be left on for the good of the trees or profit of the owners. Even with a Pear as small in size as the Seckel, it will pay the grower to go through his orchard and pull off some where they are as numerous as they are in our vicinity this year.

The Duchesse d'Angoulême has, judging from present appearances, not more than a quarter of a crop on. The Duchesse blossomed freely enough, but a fierce and cold north-eastern rain-storm of three days' duration, while the trees were in full blossom, did sad mischief with the fertilization. The small quantity of fruit that is set of this variety looks well now, and is noticeably free from the marks of the curculio, which, by the way, have not been as numerous this year as usual.

When Pears are sparsely set and the trees are healthy and vigorous, one is likely to be deceived and underestimate the yield. But, judging from present appearances, the Pear crop in this vicinity will not be over a quarter.

P. T. QUINN.

HOW TO PLUCK CHERRIES.

The productiveness of many valuable Cherry-trees is often damaged seriously by having the twigs, when hanging full of fruit, pulled from the branches. The buds from which the crop of Cherries will be produced, during one season, were developed and matured the previous year. Hence, if the twigs that bear the buds be broken off, the tree must reproduce other twigs during one season, and then the season following develop fruit-buds. We have seen scores of productive Cherry-trees stripped of the fruit-bearing twigs to such an extent that they did not yield one-fourth part of a fair crop. Careless and thoughtless persons, when plucking Cherries, break off the ends of the fruit-branches and jerk off the twigs, pluck the fruit, and throw the branches to the ground. This practice is ruinous to the productiveness of Cherry-trees.

Persons who are employed to pluck Cherries should be carefully instructed to take hold of the stems of the fruit, with thumb and fingers, while tender twigs are held securely with the other hand. They should be taught that, if the buds are damaged, there will be no fruit the next season. If one will observe old Cherry-trees, in almost any part of the country, from which the fruit has been plucked by those who were accustomed to strip off the twigs to which the fruit was attached, they will see long and bare limbs and ragged and fruitless branches, simply because the trees were seriously mutilated by pickers who never knew that twigs and buds were absolutely essential to the production of fruit. Many varieties of Cherries are very slow in the reproduction of fruit-buds. Careless and thoughtless persons should never be allowed to pluck the fruit from such trees. The buds must be spared if one would raise fruit.

S. E. T.

THE HANSELL RASPBERRY.

A basket of bright red, medium-sized, very firm, and good-flavored Raspberries, of a variety which we did not recognize, welcomed us on entering our office last week.

The berries were kindly left for us by Mr. J. T. Lovett, of Little Silver, N. J., and were the Hansell Raspberry, a chance seedling cultivated for several years by Mr. J. S. Hansell. Its extreme earliness and firmness attracted the attention of prominent fruit-growers. Judge Parry considers it the best Raspberry in existence for profit.

GOOSEBERRY CULTURE.

To an American, one of the most remarkable sights in Covent Garden Market, London, is the immense quantity and superior excellence of the Gooseberry, when in the height of its season. Our American markets, on the contrary, are very deficient in even a fair supply of this fruit, as the poor little tart-berries offered for sale are of no account for the table, and very little for cooking, unless one purchases his sugar by the barrel. It seems as if here was one of the most praiseworthy fields for the hybridizer to test his skill, —to raise a variety combining the size and quality of that noted English fruit, the "Crown Bob," and the hardiness and freedom from mildew of the American seedling.

Although several years have passed since Mr. Charles Downing introduced his fine seedling, which has since been named in his honor the *Downing*, it is comparatively little known as yet, notwithstanding its merits are of a high order. We know of one grower, who has already a large plantation of this variety, that last season netted a nice little percentage on his investment, and from which he expects the present summer a large paying crop. Even the common *American Cluster* will pay a fair profit when grown under a generous system of cultivation and not totally neglected, as is too often the case.

As regards propagation, in the case of the last-named variety, all that is necessary is to cut the young shoots after maturity into suitable lengths, say six inches long, tie them into bundles, and bury in sand until spring, keeping them in a cool cellar. This is preferable to burying them outdoors, for the reason that the frost will occasionally raise them out of the soil or induce rot. In planting, all that is necessary is to open a trench sufficiently deep to allow the cutting to stand erect, and have its topmost bud level with the surface. The only secret about the whole work is to tamp the soil firm at the bottom, and negligence in this respect causes more failures than all else.

Unfortunately, the *Downing* does not emit roots easily from cuttings, so that to procure a supply of young plants we are obliged to resort to layers. This, however, is not a tedious operation, as the many young shoots on the outer edge of old clumps are simply pegged down to the ground, and all but the tips covered with soil, and tamped hard. In one season, or at most two, they will be sufficiently rooted to remove from the parent plant and set out into rows.

It is absolutely useless to even suggest a remedy for that bane of English Gooseberry culture in this country—the Mildew. Occasionally we enjoy a propitious season and gather a few fine berries, but the exception does not pay for the trouble. The fact is, our climate does not suit them, and, although applications of potash, lime, salt, etc., may for a short time, and with young plants, prove useful, still it is only a delusive hope, after all.

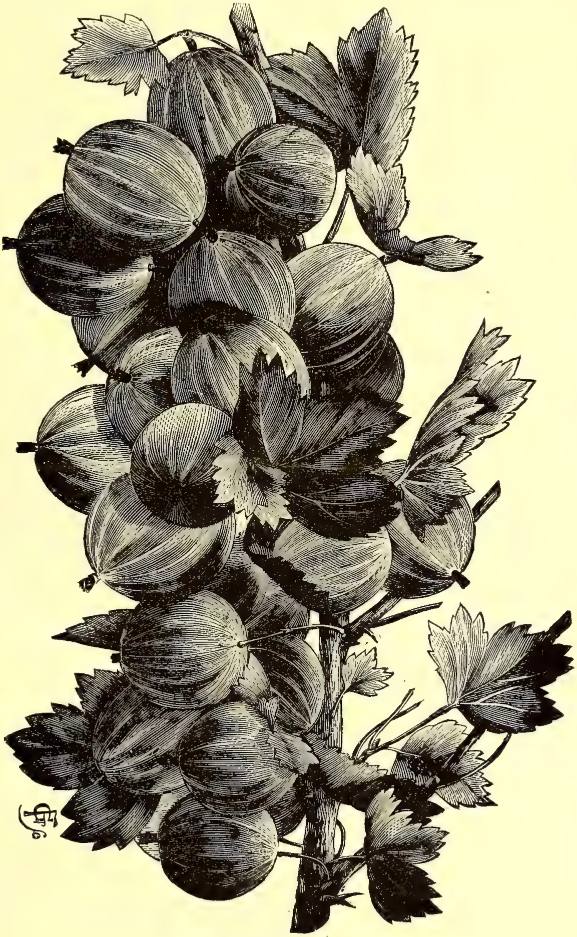
Gooseberries delight in a deep, rich soil and thorough cultivation. They demand an annual application of manure and to be kept free from weeds. If the fruit is thinned, the remaining crop will be greatly increased in size and quality, and of course command a more remunerative price in market. To the prevailing slip-shod system of culture we attribute the absence of good fruit offered for sale and the consequent apathy of purchasers; and in this, as in all other kinds of fruit, the producer of a first-class article can always dispose of it, even when the market is glutted.

The bushes should be severely thinned out each spring, and luxuriant shoots headed back, to preserve a compact, well-balanced head, otherwise they are very prone to grow dense and form much unnecessary wood.

As to the cost of starting a plantation of this fruit, an acre of plants, set 4 by 4 feet apart, which is none too much, we will need 2,722 sets, worth to-day about as follows, at the lowest wholesale rates: American Seedling—at $30 per 1,000, and Downing, $45 or $50 per 1,000—fluctuating, of course, according to the demand and supply. For the first year or two the intervening ground can be cropped with Cabbages, Potatoes, or Tomatoes, and the yield will abundantly repay for the cultivation of the Gooseberries.

In conclusion, we would suggest to those who imagine the Gooseberry fit only for making tarts, that they have certainly never tasted a well-ripened, mature fruit, juicy and deliciously flavored, such as can be and have been grown under a generous system of cultivation. The expense is trifling and the reward sure.

Josiah Hoopes.



THE DOWNING GOOSEBERRY.

MANCHESTER VERSUS HOVEY.

"Why, the Manchester is of better flavor than the Hovey!" That was a most unfortunate remark which some one made in Mr. Battey's Strawberry field last year, for straightway those who know that there never was nor ever can be anything better than the Hovey insisted that it was nothing but that old, time-honored variety, without even seeing or tasting it.

True, the Manchester is, like the Hovey, a pistillate variety, but otherwise they are about as dissimilar as two Strawberries can well be. The Hovey is conical, with neck dark, glossy crimson, bearing but one or rarely more than two trusses to the stool, while the Manchester is round, closely set, light red without gloss, and the plants throw up from six to a dozen and more fruit stalks. Still more, it is well known that the Hovey requires the highest culture and rich, heavy soil, while the Manchester thrives splendidly and bears profusely in the barren sands of New Jersey, where even the Wilson makes but a feeble growth.

The Flower Garden.

CLIFF ROSES.

Pale little sister of rich red Roses,
Wild little sister of garden queens,
Art thou content that thy flower uncloses
Here where the land to the ocean leans?

They, where the lawns are soft and shaded,
Hold their court amid eyes that gaze;
Thou by the lone sea liv'st, and faded
Fall thy leaves in the salt sea-sprays.

Smitten of every storm that blusters,
Crushed by the mimic avalanche,
Bravely still thy delicate clusters
Laugh from thicket and thorny branch.

Naught may we know of all thou knowest,
All that the soft wind brings to thee?
Under the cliff-top where thou growest
Sail the ships to the open sea.

Art not thou and thy flowers clinging
Ghosts of many a sad farewell,
Fluttering home from the ships and bringing
Tidings for loving hearts to tell?

Or art thou, rather, a blithe fore-comer,
Blown by winds from the homeward ships—
A kiss, turned flower in the breath of Summer—
A word that has quickened from eager lips?

Nay, though sweet as the longed-for hour,
Fair as the face that we yearn to see,
Nothing thou art but a simple flower,
Growing where God hath planted thee.

—*The Spectator.*

SEASONABLE HINTS.

Little remains to be done in the flower garden except to care for what has already been planted; yet bedding plants of various kinds may still be set out, and will, in good soil and with proper care, produce a fine effect for two or three months yet.

Hyacinths and Tulips are generally taken up after flowering, placed closely together in a sunny situation, covered with an inch of fine soil, and left to ripen for two or three weeks. They are then uncovered, exposed to the full sun until dry, and stored away till fall planting. When it is not convenient to take the bulbs up, satisfactory results may be obtained by leaving them in the ground, in which case it is important not to remove any of the leaves until they are dry. Previous to this time Portulaca seed may be scattered over the bed, which, as it comes up soon and does not root deep, soon produces a fine appearance without injuring the bulbs. Or Verbenas and other shallow-rooting bedding plants may be planted between the bulbs, and thereby an almost continuous bloom be kept up for nearly eight months.

Roses, especially *Hybrid Perpetual* varieties, should be pruned severely immediately after blooming, to stimulate a vigorous new growth and the formation of new buds and blossoms later in the fall. If the ground is not already very rich, it is best to dig in some fertilizer at the same time, else the Roses will not only not bloom "perpetually," but refuse to do so a second time, which is the best they will do, even under the most favorable conditions. Slugs and aphis, which so frequently destroy the leaves of Roses at this season, may be killed by dusting air-slacked lime over the bushes while wet with dew. A decoction of tobacco stems is also an excellent insecticide. Mulching with tobacco stems serves an excellent purpose as a preventive against slugs, and increases also the vigor of the plant.

SUMMER TREATMENT OF FLOWER-BEDS.

The summer care of flower-beds and flower-borders is a matter too generally neglected. There seems to be a prevalent opinion among a certain class of plant-lovers — especially those just entering upon this delightful pursuit—that when the plants are once put in the ground, they need no further care or attention; and the results are anything but encouraging to further efforts, or attractive to the eye. This condition of things may find excuse where it is the result of want of knowledge, as it often is; and the professional man may often and justly plead want of time. Be the cause, however, what it may, the fact still remains a reproach to the garden and the lawn.

Since it is one of the objects of the AMERICAN GARDEN to furnish information to those who need it, I propose to offer to this class of readers a few hints on the care of the flower-bed and flower-border during the summer. To be specific, I will first take a bed of Coleus, which, at this time, has already been planted. The first care must be to keep the bed entirely free from weeds till the plants get large enough to smother them; and the best way to do this is to never let them grow. This simplifies weeding, reduces the labor to a minimum, and robs it of most its forbiddingness. In fact, weeding in this way may be made a healthy exercise instead of an irksome labor, as it too commonly is.

COLEUS.

A bed of Coleus is grown for its color, and not for the individual beauty of the plant; hence, massiveness and evenness of surface are aimed at, combined with a more or less circular outline or face. A flat face would not certainly be so handsome as one curving gently from the center to the edge. To produce this curved or convex surface a certain amount of "pinching in" is required, especially at the time when the plants begin to make a vigorous growth. The principle is, to pinch back every shoot that shows a tendency to grow above the general surface, and pinching shorter as the edge of the bed is approached, so as to give a convex form to the surface. In this way it will be found in practice that nearly every shoot gets pinched by the time the bed becomes solid, after which little or no pinching will be needed. The lateral shoots on the outside plants will continue the curve and connect it with the ground. The labor is light, and the pinching, on the whole, is interesting, and I have known ladies to do it in the most satisfactory manner.

GERANIUMS.

Next I will take a bed of Scarlet Pelargoniums (commonly called Scarlet Geraniums). It is unnecessary to repeat the remarks on weeding. Here the object is to produce a continuous mass of bloom rather than a solid surface of green. If young plants were used to plant the bed, here and there one will be disposed to run up too high with a single shoot. This shoot must be cut back an inch or two to make it throw out laterals. The object is to get a tolerably even surface of growth before or by the time the plants come into full bloom, after which little or no cutting back should be done. To accomplish this, the bed should be looked at frequently when the plants are making their first growth, and the pruning should be done to produce the object in view. If old plants have been used to make the bed, they should be pruned back evenly, and unnecessary shoots cut out entirely. In other respects the treatment will be the same as above. Decayed leaves and flower-stalks that have done blooming should be removed as occasion requires.

VERBENAS.

In the case of Verbenas, the plants should be pinned down till they have covered the bed. Shoots that run over the edge of the bed should be pinned back or cut in. Neatness will require the removal of dead flower-heads during the season; but in other respects the plants will mostly take care of themselves. It should be remembered that weeds are particularly offensive in a bed of Verbenas.

GLADIOLUS.

A bed of Gladiolus, in addition to being kept clean, will need to be staked. For this purpose I have for years used No. 6 or 7 galvanized wire, run rather deep into the ground. The wire is neater and better than any wooden stakes I ever used. The stake should be sufficiently long to give a firm support to the flower-stalk, which, without support of some kind, is sure to go to the ground.

STAKING.

It is not possible, within the limits of an article like this, to treat separately the different kinds of plants used for bedding. It may be said, in a general way, that plants like the Canna do not require stakes. A plant like the Castor-Oil Bean, however, which is often used as a center-piece to Cannas and Caladiums (*C. esculentum*), should have a stout stake, as it usually, under such circumstances, becomes top heavy, and without a stake would blow down. As a rule, a plant should never be staked without some obvious necessity.

FLOWER-BORDERS.

In regard to the flower-border, tidiness is of the first necessity, not only that the eye may be pleased, but also for the well-doing of the plants. In a contest between weeds and cultivated plants, the weeds are sure to get the best of it if left to themselves. Just so soon as you can see the head of a weed take it off; this is the best of all ways to prevent disputes in the flower-border. Stake and tie up such plants as may need it, and remove dead leaves and decaying flower-heads, is advice to be followed during the season. In tying up do not draw the plant together in an indiscriminate mass, but preserve its individuality as far as possible. A better growth and finer bloom will well repay a little extra labor in this direction. Vines, of course, should have something to run on from the beginning, and not left to trail on the ground, where half their strength is wasted; besides, it is slovenly.

The reader will probably gather from these hints sufficient knowledge to enable him to keep his beds and borders clean, and meet with so much success and satisfaction in the growth of his plants as will encourage him to make further efforts in the future. It is often the case in plant culture, that the proper performance of one operation suggests the why and wherefore for another, and it is therefore important that a right beginning should be made.

P. B. MEAD.

THE GLADIOLUS AS A FALL FLOWER.

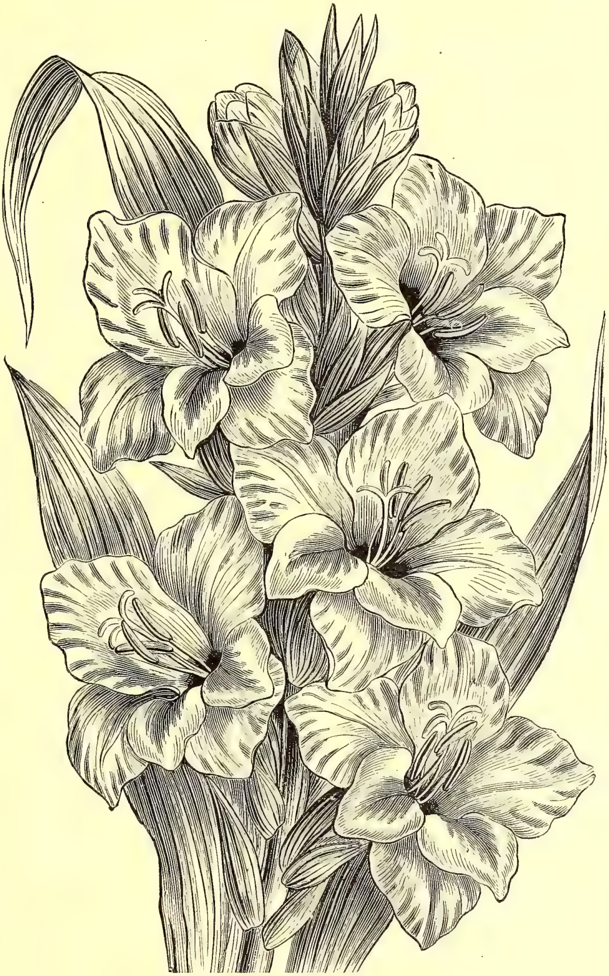
The Gladiolus is one of the most beautiful and charming of all bulbous flowering plants, and should be far more extensively cultivated. As a late autumn flower, there is nothing to surpass it. They are of the easiest culture, and succeed in almost any variety of soil. I have not tried them in pure sand, but my poorest soil has given me as fine flowers and bulbs as I could desire. I usually plant them four or five inches deep, covering lightly, and after they have grown a few inches, hoe, drawing the earth to them, thus completing the covering. I find planting thus deep is a great aid in keeping them erect, and enables one to dispense with the use of stakes, and as the new bulbs are formed on top of the old ones, they are sufficiently below the surface to obtain requisite moisture and avoid being checked in growth should the surface become dry.

Many persons fail to get the most satisfaction, by planting too early and all at one time. If planted at intervals of two weeks or so for two or three months, the flowering season is much extended, and the later plantings come into flower when the bulk of other flowers are past. I know of no flower that embraces so wide a range and variety of color and shades, from the most intensely brilliant and dazzling to the softest and most delicate tints, with various blendings of the same. The plants will stand quite a severe frost, or several of them, without injury, and after their more tender companions that helped to make up the beauty of the flower garden and lawn have withered and faded, the charming Gladiolus still remains to cheer our eyes and gladden our hearts. Even when the weather has become so cold as to freeze the ground, any flower-stalks near the point of blooming, if cut and put in water in the house, will continue to develop and unfold their bloom for two or three weeks, furnishing a source of great admiration to every visitor, and by their cheerful presence a welcome and attractive feature to any household long after their companions have "withered and gone."

After the plants have ceased flowering, and before the ground is frozen deep enough to injure the bulbs, they should be taken up, the tops removed and the young bulbs put in paper bags, boxes, or something similar, labeled if the varieties are named, and kept in a dry cellar. The price of bulbs is now so low that no one need be deterred from engaging in their culture, in a small way at least. It is not necessary to pay fifty cents to one or two dollars for a single bulb; such prices belong to new and scarce varieties or novelties, and are no index of their beauty. A dozen bulbs of mixed colors can be had for a dollar, and as many choice-named varieties for double the amount, or less, so that for a small investment the owner of the humblest yard or garden may be able to realize, and say with equal truthfulness, as has been said of the Lily,

> "That even Solomon in all his glory
> Was not arrayed like one of these."

—E. Williams.



GROUP OF GLADIOLUS.

SUB-TROPICAL GARDENING.

Many amateurs imagine that sub-tropical plants, which make such a striking show, are more difficult to manage than the ordinary bedding plants, but such is not the case. This class, with its handsome leaves and noble habit of growth, affords a welcome relief to the ordinary style of bedding plants.

For planting out on a lawn, Yucca recurvata, or Spanish Bayonet, is very handsome, while it requires no special care, and stands the winter in this latitude without protection.

For a sub-tropical bed, Canna, or Indian Shot, forms a fine center-piece. There are numberless varieties of this plant; some of them grow to a height of six or eight feet, while others have a dwarf habit. They grow better from root than from seed. They should be planted about the end of May, or beginning of June. If a ring of stable manure is placed around the plant, and a pailful of water poured inside it occasionally during the hot months, the growth is astonishing. After the first frost in autumn the Cannas may be dug up, the tops cut off, and the tuberous roots laid away in a dark place, protected from frost, until the time of planting comes round again. The best of the tall-growing varieties is *C. August Ferrier*, of the smaller kinds *C. metallica* and *C. flaccida*.

Several of the Dracænas and cool-house Palms do well planted out, and as they grow nicely in the house during the winter, are a very satisfactory investment for amateurs. A handsome variegated Japanese grass, *Eulalia zebrina*, looks well with sub-tropical plants. Its seed-spike is as delicate and feathery as an ostrich tip, and with a little covering it stands the winter well. I am surprised not to see the well-known Pampas Grass, or the American Pampas Grass *(Erianthus Ravennæ)*, more generally grown. They form a handsome and striking group on a lawn, are easily grown, and stand our winters well. They may be propagated by root-division or from seed.

The Banana, especially the Abyssinian species *(Musa Ensete)*, makes a magnificent lawn plant. It needs for its best development a very rich, deep soil, and has to be wintered in a warm house. Miss E. L. Taplin.

Lawn and Landscape.

THE ARRANGEMENT OF LAWNS.

A lawn, in order to fulfill its proper use of beautifying a place, must be well made at first, and thereafter kept in perfect order. While it should have a fair allowance of trees and shrubs, it must not be overcrowded with them, nor be hid from public view by a high wall or fence, nor by a close hedge. Among the many fine country-seats around our large cities, it is astonishing how few meet with these requirements. The house will be built where it will show to the best advantage, and the material used for the front will be of better quality than the rest; and then the grounds will be planted thickly, and perhaps a close hedge placed in front, as if in a vain desire to hide from the tax collector. This is sometimes carried to such an excess that there is merely a suggestion of a dwelling; but, whether a log-hut or a palace, is unknown except to acquaintances, tramps, and the ubiquitous assessors.

MAKING LAWNS.

In making lawn, either sod or a good mixture of grass-seed can be used. The former is best when an immediate finish is desired; and though it is necessary, when making terrace, or where there is a liability to wash with heavy rains, yet in covering a large surface the cost is a decided objection to its use. It has been said there is more risk of the weeds being introduced than if the ground is seeded; but this has no weight, as clean sod should be selected, and it is then no more subjected to weeds than if raised from seed. It can be planted whenever it is in good growing condition, except in very dry weather. After being well pounded it will need no further care beside cutting and rolling.

SEEDING.

Grass-seed may be sown any time from April to October, avoiding very dry weather. Before sowing it should be well mixed with earth or coal-ashes, previously passed through a fine sieve and made slightly damp. From three to five bushels of seed will be required to an acre; after planting, rake lightly and roll thoroughly. The cost is much less than for sodding, and it will be quite as satisfactory in its results.

It is usual to mix with the seed either oats or rye, especially in the summer months, so that the grain shall protect what is supposed to be the weaker growing grass. It would be as reasonable to plant corn to protect the grain. In practice the grass-seed will be quite able to take care of itself, and if well rolled will soon make a good sod.

Whether to be sown or sodded, the ground should be first properly graded, manured well, dug or plowed, and raked smooth. Whenever any hollows are found they should be filled in with a light soil, sown with grass-seed, and then rolled.

MOWING.

Lawn grass should always be cut before it appears to need it. The cuttings are then too short to rake, and will make a dressing for the sod which will be a decided benefit to it. The mower cannot be used too frequently from early in the spring until the last thing in the fall; in fact, whenever the ground is not frozen, it should be used at least once a week. The roller should also often be used, especially in the spring as soon as the frost is out of the ground, and again after heavy rains. The grass should be trimmed occasionally around the trees and bushes, and along the edges of paths and flower-beds, and wherever the mower will not reach. The ordinary sheep-shears is a handy tool for this purpose.

It is a false idea that frequent cutting is expensive. Beside being the only way to maintain a perfect lawn, it will be found to be the cheapest in the end. The aggregate labor and time required to cut every week in ordinary weather, and twice a week when the grass is growing luxuriantly in warm, wet seasons, will be less that when cut every three or four weeks. In the former case, after going over the ground with the mower, the work is finished, and with very little labor; in the latter, must be repeatedly cut and raked alternately until an even cut is obtained, and it will not then have a good appearance. The lawn should never need touching with a rake after the first cleaning in the spring. If the cuttings are ever long enough to gather with a rake, it is certain that the work was not done at the proper time.

LAWN-MOWERS.

Of whatever pattern selected, a lawn-mower must be light enough to handle easily and cut within a few inches of trees and other objects. The ability to cut long grass, claimed for some machines, is of doubtful advantage, as it encourages neglect. If the lower blade is kept well up, so as to just touch the revolving knives, it will keep itself sharp, and be in as good order at the end of the season as at the beginning, and will never require grinding. They should be used to cut not more than two-thirds of their width, and there will be no unsightly lines of uncut grass. With a little management they will cut on terraces of any slope, as well as on a level surface. For cutting weeds there should be a suitable knife, with a sheath, attached to the handle of the machine.

WEEDS.

Weeds are all unsightly, and yet some will appear in the best-kept lawns. Among the most troublesome are the Sorrel and Wild Violet. All kinds should be pulled out whenever seen; it is generally sufficient to cut the root just below the surface of the ground. Sorrel is a very difficult weed to get rid of, on account of its underground spreading branches. The Violet, when it once obtains a foot-hold, is very annoying, and can be exterminated only by constant attention. If overlooked for one season, the ground will be filled with seed not from its blue flowers, but inconspicuous ones maturing underground.

The fall grass, with its long, creeping stems, is sometimes considered as a weed. It can be managed only by treating it as a grass, mowing it frequently and keeping the rake from it. It is at its best when other grasses are burned out by the hot summer sun, and often gives the lawn a bright green appearance which it would not have without it. When Garlic is first introduced, it is impossible to eradicate it; but, as it is similar to grass in its color and style of growth, it can scarcely be considered as an objectionable weed.

MOLES.

Moles in a lawn are as bad as the most obnoxious weed, and should not be tolerated. Being exclusively insectivorous, it is supposed to be wrong to destroy them. They can be caught with a little patience, and, if it is really desirable to keep them alive, they can be sent to the Zoological Garden, or to the Society for the Prevention of Cruelty to Animals. Do not hit them on the nose with a stick, or they will surely die.

PLANTING.

Wherever a tree or a shrub can be planted, it is customary to put one in, and it has not always a happy effect. Even while the trees are small the lawn is overcrowded; and as they grow this becomes worse, until it is thought necessary to butcher some of them, and frequently they all share the same fate and are shorn of their limbs until they show the form of some of the letters of the alphabet. The appearance of a lawn is thus disfigured for years, when it would have been at once improved by entirely removing a sufficient number of trees and leaving the others untouched. A better plan of planting would be — whenever a tree can be omitted leave it out. The nurseryman might dispose of fewer stock, but there would be a greater number of sightly lawns, and many more handsome trees than are now to be seen.

MANURING.

Manures are as much benefit to grass as to any plant. After planting, of course, they can be used only as a top-dressing. Ground bones decompose slowly, and their effect, though lasting, is not shown immediately. Slacked lime in fine powder has a tendency to destroy the moss which sometimes appears among the grass. Bones and lime may be used at any season. Guano, and other similar concentrated manures, should be applied in wet weather; at other times they are hurtful. Liquid manures, used while the grass is growing, are an excellent fertilizer. In the fall a top-dressing of stable manure may be used, to be raked off early in the following spring. Always bear in mind that, being entirely ornamental, a lawn is made to be admired; to deserve this admiration it must be well kept; to receive it, it must be seen. Therefore, abandon front hedges and heavy fencing; cut and roll frequently, and after the first spring cleaning, abolish the rake, avoid excessive planting of trees, shrubs or flower-beds; if a tree needs extensive pruning, cut it down at once, and in every possible way encourage the grass and discourage the weeds. The lawn will then give pleasure to all who see it.—*Robert J. Siddall, before the Germantown Horticultural Society.*

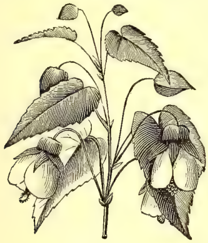
READY-MADE LAWNS.

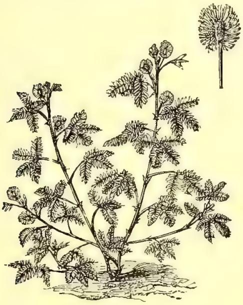
On the corners of many of our uptown streets may be seen, during Spring and Summer, venders' wagons loaded with thin slices of turf one foot square. The owners of these establishments are practical lawn-makers, or, more correctly, "lawn peddlers," ready to lay a lawn at a moment's notice in any part of the city. So that if any one feels a sudden desire for the possession of a green expanse before his front or rear windows, all he has to do is to leave his orders at the street corner on his way to business to find a luxuriant lawn awaiting him on his return. And all this for only five cents a square foot.

The Window Garden
AND GREENHOUSE.

ABUTILONS AND HIBISCUS.

These plants, which are prominent representatives of the large family of Malvaceæ, have latterly, with the growing fancy for bright, showy flowers, risen in popular favor. Though there are some new varieties, many species are among the oldest inhabitants of our green-houses and stoves. Plants of *Abutilon striatum*, with its delicately veined bells opening so freely during the long winter months in the southerly parlor-window, are one of the earliest recollections of our childhood. And, indeed, to-day there is no better window-plant; it always blooms, thrives in the close, dry air of a parlor, and is free from insects. Its only fault is a tendency to grow too tall, but this is easily remedied by pruning, or, if the plant is taken young, by pinching out the leading shoots, when it soon becomes a very handsome bush. Closely resembling this species in flower, but with more woolly leaves, are the varieties of the Darwinii section. They are virtually perpetual bloomers, thriving not only under parlor and green-house culture, but very good summer bedding plants.


ABUTILON.


MIMOSA PUDICA.

The flowers are on shorter foot-stalks than those of *A. striatum*, and are more open; perhaps they are not so graceful, but they are far richer in color. A very beautiful species is Boule de Neige, or Snowball. It is of dwarf habit, and little plants, only a few inches high, cover themselves with the large pure-white flowers. Of tall species, of which *A. Bedfordianum*, one of the oldest denizens of our green-houses, is a good representative, there are many kinds; but they are coarse in flower, and unless one has much spare room, they are not especially desirable in the green-house, and are not suited for the parlor. Where room can be given they make large specimens, and flower very freely; and we have seen them very beautiful, planted out in summer in the garden. All the Abutilons require only common green-house treatment, and are very easy to grow; they root freely from cuttings, and are especially adapted for conservatory decoration. Some are of pendent growth, and do well in hanging baskets, and others have gold variegated foliage. Small plants, in six-inch pots on rich soil, should be plunged in the open ground in the spring, after all danger of frost is over. If the weather is dry, they should have occasional waterings, and should be pinched to make them bushy. About September take them up and repot into pots two or three sizes larger; place them in a sheltered place for a few days and remove them to the house before the nights become cold. Thus treated they will bloom all winter. They can, after the first year, be made into beautiful standards, for which they are especially adapted, or they may be trained into pyramidal or any other required form. As to colors of flowers, we have white, yellow, crimson, orange, and rose, and there is also a great variety of foliage, both in color and shape.

The Hibiscus are in flower far more gorgeous than the Abutilons, are much stronger growers, and, being natives of warmer climates, are not well adapted to parlor culture; but in the green-house they are magnificent. In winter they require heat to bloom them well; but in summer, large plants in tubs set out of doors, or even bedded out in sheltered situations in the garden, bloom beautifully and are very effective. The foliage is a dark, glossy green, the flowers are very large and both double and single. There is a great variety of colors—scarlet, orange, crimson, yellow, and we have heard of white with deep purple center which was very showy, especially if contrasted with the brighter colors. There is also a species *(H. Cooperii)* with white and pink variegated foliage, which when well grown is very beautiful; the flowers are single, in color white much veined with pink.

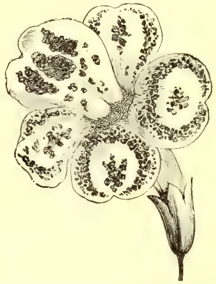
This species requires to be somewhat pot-bound before the foliage develops its full variegation; in too large a pot, or planted out, the leaves revert to green, but a large plant grown for years in a tub will be as bright as a rainbow. This kind also requires more heat than the green-leaved varieties and, we have never seen it successfully grown as a parlor plant. For window culture the Hibiscus are not as well adapted as the Abutilons, but we have seen the species with single flowers do passably well; those with double flowers always drop the great, heavy buds before opening, as double Camellias so often do in the hot dry air of the parlor. The Hibiscus are very easily propagated from cuttings and are very free growers, a small plant soon making a specimen. They do not require to be kept very wet, but if allowed to dry up the buds will drop. Give them a rich soil, light, heat and moderate moisture, and a large plant will never be out of bloom. They have also the advantage of beginning to bloom very young, a cutting a few inches high often having a flower larger than all the rest of the plant.

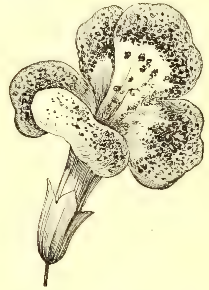
Grow a few Abutilons and Hibiscus.

JOHN THORPE.

MIMULUS.

The Mimulus is a very pretty little plant of the easiest culture, and does not receive the attention which it deserves. There are very pretty native species which are well worthy of cultivation if one can give them a moist border; but all are impatient of drought, and die if allowed to dry up. The most common exotic species is the pretty little Musk plant *(M. moschatus)*, a charming little free-flowering plant with bright yellow blossoms, the whole plant diffusing a pleasant musky odor. Then we have the taller varieties, of which *M. cupreus* is the type, with showy flowers; but the most lovely of all are the dwarf and large-flowered varieties, of which our illustrations give a good idea. The plant is very dwarf, spreading, soft-wooded, with light green foliage, and covers itself with the large blossoms. The colors vary greatly, and the markings of some of the varieties are exquisite; indeed, a packet of seed will often give as many varieties as there are plants, and all will be good. The colors are yellow in every possible shade, the markings brown, maroon, or even black. The culture of all species is the same. The seed, which is very fine, should be sown in a pot of light, rich soil, and the little plants protected from full sun. As soon as they are large enough to handle, pot them off two or three in a pot, or prick them out in a shallow pan; when they grow larger, pot each plant separately in rich light soil and expose fully to light. If the plants grow too high, pinch them. Keep them moist but not too wet.


MIMULUS, WITH WHITE GROUND.


MIMULUS MACULOSUS.

MIMOSA PUDICA.

Who does not know the pretty Sensitive Plant? How easy it is to grow: only plant the seed, pot off the plants, shifting as they grow larger; or plant in the garden, where they will bloom until killed by the frost.

Foreign Scenery.

THE WILD FLOWERS OF PARA.

FOURTH PAPER.

About midway between the Largo do Palacio and the Largo of St. José is a reach of low ground extending westward from the newer quarter of Narazé to what is called the old city. This ground, in very high tides or sudden rises of the river, is liable to overflow. It is intersected by the Estrada de St. José and by all the roads running southeast, and to protect these roads in case of flood deep ditches are dug on each side of them; these are palisaded with strong stakes of some of the almost indestructible native woods, to prevent the soil from caving in, and rooting among these stakes, and on the sides and tops of these ditches, we find many beautiful flowers. Indeed, the whole of this low region is prolific of flowers, especially those which love a moist soil, for, though the surface is often dried up in summer, the subsoil is always wet.

Conspicuous among these plants are many species of bright-leaved Caladiums, which grow in great abundance and attain a size, both in plant and foliage, which we never see in our greenhouses. We have noticed *C. bicolor* four feet in height, and *C. Chantinii* almost as tall, and have measured leaves of both which, from tip to tip, were twenty-four inches in length and of a corresponding breadth, and these were not exceptional cases, for larger could doubtless be found. The coloring, too, is very rich, and the effect of masses of these plants can be better imagined than described. The two species mentioned are those most commonly seen, but there are many others of less frequent occurrence. There is scarcely a bit of moist ground in the vicinity where Caladiums are not found in some species, but it is only during a portion of the year that they are seen in full beauty. During the rainy season, say from December to May, they are very showy; as the rains grow less frequent the foliage of most species dies down, though, as rain is seldom wanting for many successive days, they can be found every day in the year. While in our greenhouses the foliage is their only attraction, here in Para, their native country, they show flowers very freely, and the large white blossoms which often rise well above the leaves add not a little to the beauty of the plant. The native name is "Tājá," pronounced "Tarjah." They are also very common in the gardens; in our own we have about forty species, many of which we have never seen in the United States; and the borders of many of our flower-beds are formed by the beautiful dwarf species *C. argyrites*, which makes long lines of lovely green and white foliage. A species with hastate foliage and copper-colored leaves, with red lines, is very showy, and one which develops on the back of each leaf a large half-folded leaf is very curious; this latter is called "Tamba Tajá," and is a rare species.

Of true Callas we have seen none around Para, but on the Upper Amazon there is a very lovely species which has flowers with a very long white spathe. An allied plant, resembling in growth *Calocasia odorata*, is very common on all moist ground. Along the Amazon it grows by the thousands of acres, often lining the river for miles. The leaves are large, dark green; the flower very large, white, and of an unpleasant odor. This plant varies much in height, often standing only a foot out of the water, and again growing ten feet high, with immense stems. It is called "Aninga" by the natives.

Another marsh plant, which often covers large tracts, is a species of *Pontederia;* it much resembles the common species of the United States, but the leaf is broader and not so long, and the flower does not stand so high above the foliage, and is of a lighter blue. One of the most beautiful water-plants of the Amazon is *Eichoria speciosa*, formerly called *Pontederia crassipes.* In Para we have seen it only in the Botanic Garden, but it fills every little bay on the Middle Amazon. The foot-stalk of the leaf is curiously swollen at the middle and full of a spongy tissue; the flower is in spikes, large, lavender blue, with well-defined shaded centers; there is, also, a pure white variety, but it is very rare; among hundreds of thousands of plants we never saw but two. The plant which of all that we see on the Estrada de St. José most attracts attention is a Pancratium; it grows by thousands by the side of the ditches which we have mentioned, and is in perpetual bloom. The foliage is long, Amaryllis-like; the flowers are something like those of *P. rotatum*, but are larger. The flower-stalk rises from a foot to eighteen inches in height, and the bud-sheath unfolds from five to fifteen flowers, according to the strength of the bulb. The color is pure white, often shading to pink, and the perfume is delicious. Often on our way to our office we gather bunches of these flowers as large as we can carry, and it is amusing to see the scornful looks of the people we pass, who cannot understand any one caring for so common a flower, for, fond as the negroes and Indians are of wearing flowers, especially white ones, in their hair — and one rarely sees them without — we never yet saw one of these flowers worn, beautiful and fragrant as they are.

Of Amaryllis, of which Brazil is the native country, we have found none wild around Para. They are common in the gardens, and we have often seen them in abundance on the Middle Amazon, and especially so in Eastern Peru, where the climate is cooler. Another common flower on the sides of these ditches is a *Heliconia*, which has long, canna-like foliage, and spikes of red and yellow flowers. This plant seems to be indifferent as to soil, for it grows equally well in the marshes, in the sandy soil of the plains, and in the deep alluvial earth of the forests. In height it varies from one to six feet, the greater development being in the woods, where it has to push up to reach the light. It flowers more freely in dry, sandy soil, but wherever seen its bright colors attract attention. It has also the merit of lasting many days in water, in contrast to the majority of flowers here, which, when gathered and brought into the house, soon wither.

Leaving the marshy district we come to higher ground, and the vegetation changes, the moisture-loving plants giving place to those which like a drier soil. Conspicuous among these is a species of *Hibiscus.* It is a low-spreading shrub, hardly ever rising above eighteen inches in height. The flower is two inches in diameter, canary yellow, with black center, somewhat resembling the African Hibiscus of our gardens, but far more showy.

From January to December it is one of the most showy plants of the roadsides, and, as seedling plants begin to bloom when only a few inches in height, it is well worthy of cultivation.

A class of plants which is very sparingly represented around Para is Ferns. One would suppose that in a climate where it rains so frequently they would abound, but we have met with few species. A few weeks ago there was a very beautiful Climbing Fern (*Lygodium*) which covered a fence on the road to our house; we never passed it without stopping to admire its beauty and to gather fronds for the house vases. But one afternoon we found it all withering. The owner of the land was clearing his fences, and the Fern, with all the bright Morning-Glories and other creepers, was cut down. A few months, however, will see it again in full beauty, for, persistent as the people here are in denuding the fences, luxuriant Nature is too strong for them, and plants grow as fast as they can clear them away.

The branches of the Mangoes and many other large trees are often completely covered by a small Creeping Fern, with dark green lanceolate leaf, which roots along its whole growth. The effect is very pretty, and the plant does not injure the tree. After a season of drought, where fully exposed to the sun, this Fern shrivels up and appears dead; but with the first shower the fronds open bright and green as ever.

We have purposely left a description of Orchids for the conclusion of our article. These, in the city itself, are very few, but in the surrounding swamps there are plenty of Gongoras, Stanhopeas, Epidendrums, a species of Cycnoches, and many small flowering species of no cultural value. In the drier woods we also find plenty of Catasetums and a few Oncidiums.

The most showy Orchid of common occurrence in the city is *Rodriqueza secunda.* Authorities tell us that this plant is a native of Mexico, and it may first have been brought to England from that country, for it has the widest distribution in the Amazon Valley of any plant with which we are acquainted, being found from Para away up to the foothills of the Andes. It is especially plenty in Para, usually growing upon the Mango trees, and in the quarter of Nazaré, the Estrada of which is lined with these trees; it forms large tufts along the branches. When these are covered with the bright pink blossoms in January, the sight is very pretty, and when, later, the seed-capsules open, showing the white inside, the effect is that of a mass of curious white flowers.

There is another very pretty little Orchid which is by no means as common, *Oncidium iridifolium.* It is a little gem of a plant, never more than an inch in height, the leaves arranged like a miniature open fan; the flowers are bright yellow and very large for the plant.

Thus have we on one road gathered our bouquet of wild flowers; that we have mentioned all is impossible, for were we to take another road we should find many more, but we have described enough to give the reader an idea of the wealth of floral beauty to be found wild in the city of Para.

E. S. RAND, JR.

Rural Life.

COOL HOUSES AND DRY CELLARS.

During midsummer many country houses, strange as it may seem, are less comfortable than average city houses. Without facilities for keeping the rooms cool and the cellar dry, country life offers but little attraction during these hot days.

To accomplish these desirable objects the New York *Times* offers the timely suggestions that "this may be done by closing all the windows about eight o'clock in the morning and opening them only after six in the evening; dark green window shades being inside of the white ones will keep out the heat of the sun, and the darkness will drive out the flies. Children and old persons suffer greatly if they cannot rest for an hour or two about midday, and in a cool, dark room, where there are no flies, an hour's rest for the weary mother and the young children may be easily secured. The windows may be opened at night, when the air is cooler and less damp than in the daytime, and thorough ventilation given.

The condition of the cellar is much improved by the same treatment. If the cellar windows are open in the daytime and the warm air let in, a large quantity of moisture comes in with the hot air and is deposited like dew on the cellar walls and floor. This encourages mold, and in a few days the cellar is impregnated with mildew. The cooler night air contains less moisture, and if a bushel of fresh lime is kept in the cellar it will absorb a great quantity of moisture from the air and keep the cellar dry. A bushel of lime, weighing eighty pounds, will absorb twenty-seven pounds of water before it becomes at all damp. A peck of it will absorb more than six pounds, and a peck is very manageable. When it is slaked down to a powder and appears very moist, it can be taken away and fresh lime supplied. Half a bushel of lime will completely dry the air in a cellar thirty by twenty feet, and seven feet high; but it is not requisite to dry it completely; all that is wanted is to absorb the surplus that cannot be held in the air at a temperature of forty-five degrees or fifty degrees. Then the cellar will be practically dry, and there will be no mold or moisture or earthy smell about it.

This is of the utmost importance in dairies where milk, cream, and butter are kept in cellars, and more so in regard to food. It is known that the spores of common mildew will produce germs that are found in the stomach and blood in certain diseases. It is quite logical to believe, then, that to eat musty or moldy food will be dangerous to health, and may produce serious diseases as surely as impure water will. Sometimes a cake taken from a damp cellar may be found, on breaking, to contain fine glutinous strings or threads, which stretch from piece to piece. These threads are mold. Pies and bread are often imperceptibly moldy in warm, damp weather, and consequently dangerous to health. So that a damp cellar may be easily a source of unsuspected danger, and the dampness may be all due to an improper method of ventilation. The cellar should, then, never be ventilated in the daytime, except in dry, cool weather, when it is perceptibly warmer than the outside air."

Horticultural Societies.

THE NEW YORK HORTICULTURAL SOCIETY.

The annual Rose and Strawberry Exhibition of this flourishing society was held at Republican Hall, on the 22d and 23d of June, having been postponed from the previous week, on account of the unusually late season. Several of the exhibits were highly meritorious, and, considering the very unfavorable season, the exhibition was all that could be expected.

The secretary, Mr. Jas. Y. Murkland, on whom, as usual, all the heavy work fell, deserves much credit for the excellent arrangements and judicious management. The exhibition tables were arranged all around the sides of the large hall, leaving the center open for the multitudes of visitors who constantly flowed in and out.

ROSES.

The display of cut Roses, these being the only ones admitted, was an extensive one, but unfortunately the heat was so intense that the freshness and beauty of the flowers lasted but a few hours.

The first premium for the best display of cut Roses was awarded to W. A. Burgess, of Glen Cove, L. I., whose large and beautiful collection attracted general attention. John Finn, Tremont, N. Y., was the fortunate winner of the second prize. It is to be regretted that the Roses in these collections were not named, a circumstance which was very annoying to visitors who desired to increase their rosarian information. Gustave Brower, of New York City, exhibited a very select and choice collection of Roses, among which we noticed fine blooms of Alfred Colomb, a splendid Rose of large form and of bright cherry-red color; Anna de Diesbach, a well-formed flower of large size and of a brilliant rose color; Captain Cristy, Countess of Oxford, Prince Camille de Rohan, Madame Victor Verdier, Baroness Rothschild, and other well-known favorites. Thomas Tait was awarded the first premium for the best twelve hybrid perpetual Roses, viz.: Madam Griffith, Madame Victor Verdier, Mrs. Annie Wood, Gen. Jacqueminot, Lord Raglan, Charles Margottin, Prince of Wales, Paul Verdier, Eliza Boelle, James Goujon, and Jules Margottin.

Mr. Burgess also received a premium for the best six Maréchal Niel Roses, also first for the best six Moss Roses, viz.: Luxemburg, Salet, common Moss, White Cluster, Angélique, and Marie de Paris. Isaac Buchanan exhibited six blooms of Paul Neron of immense size, and his blooms of Jules Margottin, Mrs. Annie Wood, and Senator Vaisse, were of fine form and size, and were superbly colored. Peter Henderson exhibited six superb blooms of Baroness de Rothschild and Countess of Oxford. Excellent specimens of Madame Alfred de Rougemont, Niphetos, Mrs. Annie Wood, Paul Verdier, Madame Victor Verdier, and General Jacqueminot, were also shown by different exhibitors.

STRAWBERRIES.

The most conspicuous novelties were "Jersey Queen" and "Manchester," and it was actually some relief to perceive a reaction from the prevailing rage for improvement of size only. Jersey Queen is, although very large, of beautiful form and attractive appearance. "Manchester" is especially recommended as a market berry, being of good size and quality, very firm, and most productive.

The first premium for the best collection of twenty-five varieties was awarded to Rev. E. P. Roe, whose fruit showed great care and good cultivation. Bidwell, Seneca Queen, and Sharpless were especially noteworthy. J. T. Lovett, whose exhibit was but little inferior, secured the second premium. His Manchester, of which he showed several plates, formed a great center of attraction. The premium for the heaviest fifty berries of any variety, as well as for the best two quarts, was awarded to Peter Henderson & Co. for Jersey Queen. Mrs. Clarkson N. Potter received the prize for the heaviest ten berries, for President Lincoln, the aggregate weight of the ten berries being twelve ounces. Mrs. Potter exhibited also splendid specimens of Champion, and as her gardener had the good judgment to renew the berries the second day, they looked as bright and fresh at the close of the fair as at its opening.

ORCHIDS.

At the last moment it was decided to admit these for exhibition; and they did certainly add very much to the bright appearance of the hall and the interest of the exhibition. The plants in Mrs. Morgan's collection were, as usual, conspicuous for their health and vigor. The most prominent were fine specimens of *Cattleya Gigas*, *C. Warnerii superba*, *Odontoglossum vexillarium*, and *Lælia empatha alba*, a rare species, and probably flowered for the first time in this country. The collection also comprised several Cypripediums, among which *C. superciliare* was the greatest novelty.

Mr. Isaac Buchanan exhibited a variety of *Cattleya Mossiæ*, varying in intensity of color. Also a fine plant of *Lælia purpurata*, and a specimen of the rarely flowered *Lælia majalis*, besides plants of *Dendrobium thyrsiflorum*, *D. Parrishii*, and *D. Devonianum.*

Mr. Wm. C. Wilson's exhibit contained a variety of Cattleya Mossiæ named *superba*, a pale-colored flower, with the lip marked with a brighter crimson spot and orange color than is commonly seen. Also a small plant of *Dendrobium Falconerii.*

Mr. Taplin exhibited *Lælia majalis* and two nicely flowered plants of *Epidendrum vitellinum.*

Mr. John Finn exhibited a collection of nine *Cattleya Mossiæ* of various markings and shades of color.

Mr. Bush's exhibit of six plants consisted of *Cattleya Gigas*, with a remarkably dark-colored lip, a finely flowered *Cypripedium Veitchii*, *Ærides quinquevulnerum*, *Æ. Dayanum*, *Dendrobium suavissimum*, and *Lælia zanthina.*

Mr. Charles F. Erhart exhibited *Vanda tricolor*, *Dendrobium Picrardii latifolium*, and *Lælia crispa*; also a small plant of a purely white *Cattleya Mossiæ*, and a *Lælia majalis.*

Mr. Wm. White's exhibit contained the curious *Uropedium Lindenii*, *Odontoglossum Karwinski*, *O. nævium*, *Masdevallia Davissii*, and nicely flowered plants of *Odontoglossum Roezlii* and *O. Roezlii album*, and *Cypripedium Lawrencianum.*

There will be no monthly meetings of the Society during July and August.

BOOKS AND PAMPHLETS RECEIVED.

Indiana State Fair.—Premium List of the Fair to be held at Indianapolis, September 25th to 30th.

Tennessee's Attractions to the Immigrant, by John Moffat, Commissioner of Immigration, giving statistics and descriptions of the principal agricultural sections of the State, especially the Cumberland Table-land.

New Jersey State Agricultural Society.—Premium List of its annual Fair to be held at Waverly, commencing Monday, September 18th, and to continue through the week. This is one of the most varied and most liberal premium lists we have yet seen.

Farm Library No. 5, Luscious Fruits, *by O. B. Galusha*, Secretary Illinois State Horticultural Society. This little pamphlet is a model of condensation, and contains about as much useful and practical information as can well be squeezed into twenty-four pages. The author treats, in his usual concise style, location and preparation of soil, Purchasing Plants, Varieties, Planting, Cultivation, Profits, Diseases and Insects and other topics of interest to the fruit-grower. Published by E. H. Libby, Chicago.

Bees and Honey; or, the Management of an Apiary for Profit and Pleasure, by Thomas G. Newman, editor of the *American Bee Journal*, Chicago, Ill. The third edition of this work has been carefully re-written by the author, for the information of the many who are now becoming interested in the pursuit of bee-keeping. It contains one hundred and sixty profusely illustrated pages, is "fully up with the times" in all the various improvements and inventions in this rapidly developing pursuit, and presents the apiarist with everything that can aid in the successful management of the honey-bee, and at the same time produce the most honey in its best and most attractive condition. Chief among the new chapters are "Bee Pasturage a Necessity," "Management of Bees and Honey at Fairs," "Marketing Honey," etc. Price, bound in cloth, 75 cents; in paper covers, 50 cents, post-paid.

Agriculture of Massachusetts.—The Report of the Massachusetts Board of Agriculture for 1881, an elegant volume of unusual interest and value, is before us. The secretary, Mr. John E. Russell, reviews with much ability and sound, practical judgment the agricultural situation and needs of the country at large, and especially of the Commonwealth of Massachusetts. The plan of Farmers' Institutes, inaugurated in 1878, appears to prove generally satisfactory, and is acknowledged as a most effective means for disseminating agricultural knowledge and experience. The proceedings of the meetings held during the year occupy the greater part of the volume, and contain a large amount of valuable information which it would be difficult to find in similar publications. Among the principal subjects discussed are: Digestion and Winter Feeding of Domestic Animals, Fruit-Culture, Harvesting Corn, Sugars, Cultivated Mowing Lands, Muck, Forage Crops, Ensilage, Farmers' Homes, Animal Growth and Nutrition, Sanitary Essentials, Commercial Fertilizers, and many other topics of not less importance.

ANSWERS TO CORRESPONDENTS.

Summer Pruning Grape-vines.—*E. H. W., Catskill, N. Y.*—The "Kniffin System" was fully described in the AMERICAN GARDEN for October, 1881. The summer pruning consists simply in pinching or cutting back too rampant growing shoots. Many successful vine-growers do not prune at all during summer.

Salt and Lime Mixture.—*L. M., Portchester, N. Y.*—This is principally used for composting muck. It is made by dissolving one bushel of salt in water, and then slacking three bushels of lime with the salt water. It should be turned over two or three times under a shed before mixing with muck. One bushel of the mixture is enough for a cord of muck.

Plants for Names.—*Miss M. B., Pelham Priory, Westchester County, N. Y.*—The pretty scarlet-tipped plant is *Castilleja coccinea*, popularly called Painted Cup; it belongs to the family of Scrophulariaceæ. The bright scarlet leaves are not petals, but the floral leaves which are dilated and colored, thus becoming more showy than the flowers themselves. There is also a variety with yellow bracts instead of scarlet.

The large yellow flower, with onion-like smell, is *Allium Moly*, Golden Allium. This is not an indigenous plant, but introduced from Southern Europe. As it is perfectly hardy and multiplies rapidly, it may have escaped from gardens and may become gradually naturalized.

Sea-Beans.—*R. M., Jacksonville, Fla.*—Sea-Beans do not "grow in the ocean," nor are they "eggs of fishes." They are the seeds of plants growing in the tropics, where they fall in the rivers, float to the ocean, and are then washed to our shores, sometimes as far north as Long Island and Massachusetts, and are not seldom carried by the Gulf Stream across the Atlantic Ocean to the shores of England and Norway. The larger and smoother Bean is the seed of *Entada scandens*, a vine which bears monstrous pods. The smaller Bean resembles, when polished, the tortoise shell, and is used in imitation of the same. This is the seed of *Dolichos* or *Mucuna urens*. The stiff hairs of the pods of this and other species of the genus are used as a vermifuge.

Diseased Geraniums.—*J. H. D., Toronto, Ont.*—Your Geraniums are affected with what is known among florists as the "Spot," a fungus of the peculiar habit of attacking individuals rather than whole colonies. When large quantities of Geraniums are grown, it happens frequently that six or eight plants become affected while the others remain unharmed, or isolated cases may occur among a healthy group. Plants when first showing signs of disease are *always* charged with too much moisture, either from excessive watering, or too much humidity in the atmosphere—mostly the former. Bad drainage is another incentive cause.

The remedy is to dry the plants off pretty well, but not so as to cause the leaves to wilt. Then examine the drainage, disturbing the roots as little as possible, and be sure to have free egress for water; after which, water the plants thoroughly with permanganate of potash, in proportion to as much as will cover a ten cent piece to one quart of water. This should be repeated four or five times, but only when the plant becomes dry. We have never known this to fail.

OUR EXHIBITION TABLE.

Seedling Carnations, from Messrs. Hallock & Thorpe. A large collection, many of the flowers of exquisite beauty and fragrance, varying in all imaginable tints of scarlet, crimson, rose, and orange.

Ellwanger & Barry's Seedling Rose No. 5.—A flower of this was received by mail in as perfect condition as if it had been cut but an hour before. It is a seedling of General Jacqueminot, of perfect shape, rich perfume, and of a beautiful, peculiar crimson shading into amaranth. It was much admired by all who saw it.

Georgia Peaches.—Our thanks are due to Mr. P. J. Berckmans, of Augusta, Ga., for a crate of beautiful Alexander Peaches. They arrived in excellent order, as is always the case with fruit shipped by this careful and experienced pomologist. His commission merchant informs us that Mr. B.'s Peaches are among the best received in New York, and bring always the highest price in market. The net returns for *one bushel* of Peaches shipped by him on May 30th of last year amounted to *thirty-two* dollars.

Gladiolus Colvillei var. alba.—"*The Bride.*"—A bunch of these beautiful spikes has adorned our table for over a week, and the flowers still retain their beauty. It seems strange that this charming plant is so little known by amateur gardeners. Living out all winter, with but slight protection, it bursts into bloom with snowy whiteness the latter part of June. The spikes, growing about eighteen inches high, are most gracefully set with large, well-opened, pure white flowers, resembling, when cut, beautiful feathery sprays. A bed of these in bloom forms a conspicuous attraction to any flower-garden.

MISCELLANEOUS.

Carbolic Acid.—A teaspoonful in two gallons of water is recommended for the destruction of Currant-worms and Rose-bugs, and is said to be as effective as White Hellebore.

Hardy Raspberries.—"*The Souhegan,*" writes Mr. G. H. Hale, is the only Raspberry, either red or black, that was not hurt in the least by the last hard winter, while *Brandywine* near by was damaged and *Turner* killed to the ground.

Sweet Potatoes.—Mr. A. P. Arnold, a practical farmer, recommends planting the same ground to Sweet Potatoes three or four years in succession, using special manures freely with each crop, and twenty-five bushels of lime to the acre, previous to seeding to clover.

Tansy against Cabbage-Worms.—A correspondent says that he has used a strong decoction of Tansy as a remedy for Cabbage-worms. It was applied with a common watering-can through a fine rose, and proved more effective than other highly recommended specifics.

Liquid Manure.—Whatever harm, real or imaginary, the "Heathen Chinee" may have brought to our country, they have taught the gardeners of California the use of liquid manures, and have shown them that far better vegetables can be grown with liquid than with solid fertilizers.

Orange Culture in Florida.—A Florida paper says that, within a radius of eight miles of Sanford, Fla., there are 2,992 Orange-groves, containing 165,235 trees, and although only five per cent. of the trees are now bearing, they produce 2,500,000 Oranges annually. The entire State is said to produce 50,000,000 Oranges.

Coal-Tar Water against Melon-Bugs.—This is highly recommended by a correspondent. He stirs the tar in a barrel of water and lets it stand until the water becomes scented and colored with tar. With this liquid he sprinkles the vines twice a day, and finds that it not only keeps the bugs away, but makes the plants grow healthier and more vigorously.

The Agricultural Epitomist.—The editor of this paper ought to be a happy man. He needs no bars nor locks to protect himself against the thieving crowd of plagiarists, and yet his paper is overflowing with good things. We do not know in whose head originated the idea of giving an epitome of our entire agricultural periodical literature by extracts and clippings, but it was certainly a happy thought, and our old friend, J. A. Woodward, is just the man to carry it out effectively.

An Ancient Herbarium.—From an interesting account of Dr. Schweinfurth's African explorations in *La Nature*, we learn that in a cave lately discovered near Thebes, the breasts of the royal mummies were found covered with garlands of flowers and leaves. Of these the Doctor preserved a large number by moistening them, putting them afterwards in alcohol, spreading on paper and drying them; thus forming a unique Herbarium of plants growing nearly four thousand years ago. Nearly all the flowers found were of species growing in that region to this day, either indigenous or cultivated, and, owing to the complete exclusion of light and moisture in the cavern, the color of most specimens is remarkably well preserved.

E. S. Rand, Jr., our esteemed correspondent from Brazil, whose vivid descriptions of the Amazonian regions, which appeared in the pages of the AMERICAN GARDEN, have no doubt been read with much interest and pleasure by all of our readers, has arrived in New York. He will spend a few months in the United States, after which he will return to Para, which has been his home for several years. Mr. Rand commenced the collecting of Orchids and other tropical plants as a matter of study and pleasure merely, but his extensive experience and superior knowledge of the subject have brought him so many orders from the North, as well as from Europe, that now he devotes most of his time to collecting and filling orders. Among the Orchids which he has brought with him are several new species of great beauty, which have not yet been described or named by botanists.

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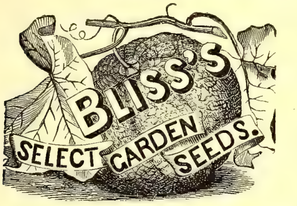

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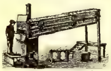

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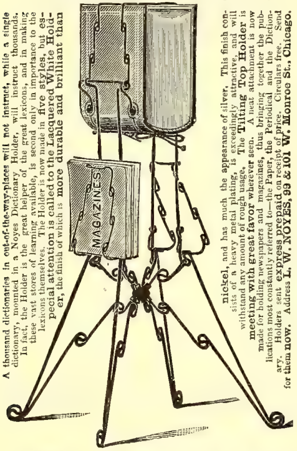

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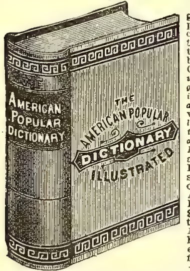
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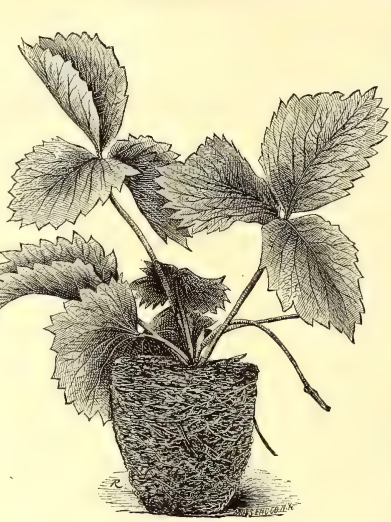

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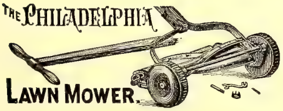

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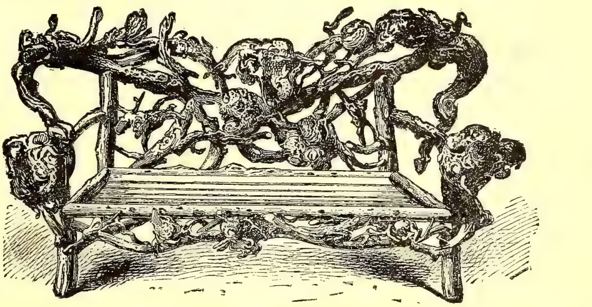

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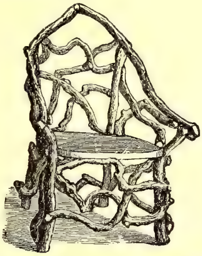

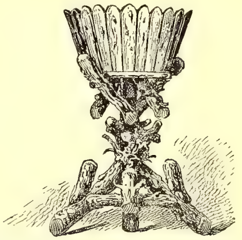

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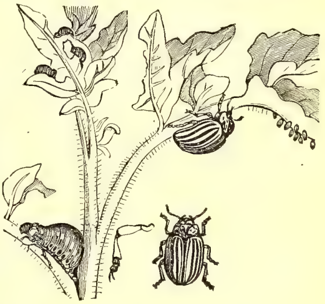

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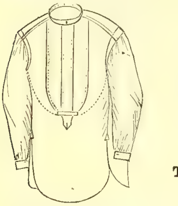

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The price is so much less than has ever been asked for the starched and polished shirts universally sold, that people can readily perceive that they have been paying at the rate of ten dollars a pound for starch, as used in shirts; and this is not all—the starch, they can see, has been used to conceal the coarse fabric and bad work. These shirts are free from starch; they are sent just as they come from the work-room, with material and workmanship open to inspection.

How I can afford to sell so good an article for so small a price—less than the usual cost of the bare materials—is a problem which has puzzled many of my patrons. Yet it is not so difficult to explain and understand. I manufacture in very large quantities; use the latest and most improved labor-saving machinery; my small expenses—no extensive city store, elaborate show-rooms, and expensive salesmen—and, furthermore, the entire business is strictly on a cash basis. I buy all materials for CASH, I pay my help promptly in CASH, and I sell my goods strictly and only for CASH.

Again, it must be remembered that in dealing with me my patrons save all the intermediate profits charged by the different merchants and middle-men before reaching the consumer. The goods literally go "*from the work-room to the wearer.*" Thus can I sell my wares for so small a price, and yet make a profit, for I do not put forth the shallow pretense that I am selling at or below cost for the purpose of introducing my shirts, etc., but I sell them at my advertised prices and make a profit—a small profit, true, but the large aggregate amount of my business makes the profit satisfactory. Those who may have doubts of the correctness and honesty of my representations are invited to send for a sample, stating size of collar usually worn.

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One Dozen by express, $12.00
Half " " " 6.00

And at same rate for a greater or less quantity.

Samples will be sent by mail, post-paid, for $1.15, for any quantity.

My customers need have no fear that the shirts will not reach them safely by mail. The losses by mail have not averaged one parcel in a thousand. Samples of the material used and instructions for self-measurement will be sent free.

Remittances may be made by P. O. Money Order, Bank Check, or Draft to my order on New-York, or money in Registered Letter. Postage stamps will be accepted for moderate amounts.

If your order is to go by express, please state the express company you desire the goods to be forwarded by.

All Orders or Communications should be sent to **C. R. QUINBY, Pleasantville Station, Westchester Co. N. Y.**

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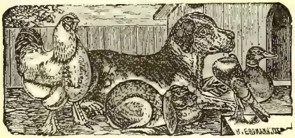

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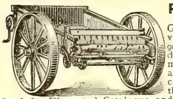

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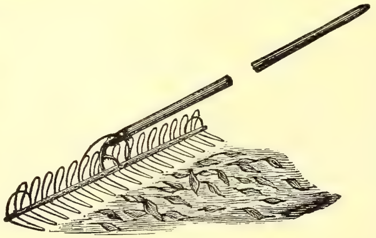

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Will level and prepare a garden bed for the seed better and quicker than any other tool. Will clean a race-track perfectly. Just the thing for ladies wishing open-air exercise. A man with one will do the work of six or eight men in a superior manner. The work is light and easy, as the rake is drawn over the ground instead of being carried. *Landscape gardeners will use no other after trying this.* Grass will grow faster and look much better after being combed a few times with the rake.

It requires many years of great care to produce a fine Lawn, which may be injured, and perhaps ruined, in a short time by using common rakes. Price, $1.00.

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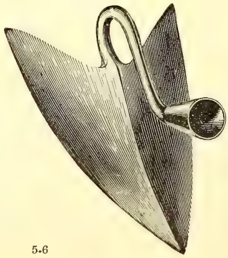

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It is perfectly adapted for Field, Nursery, or Garden. Is *superior* to any other hoe at all work for which a hoe is intended, such as Pulverizing, Planting, Hilling, Weeding, Scraping, Chopping out, etc. They are made of *Solid Cast Steel, with Trowel temper,* and warranted not to break with fair usage. No farmer or gardener can afford to do without them, and spend their time and strength on the old hoe. You may not like the looks of them at first, they being so different from the hoe we have been using for thirty years; but use it until you become accustomed to it, and twice its cost will not get you to do without.

It has two sharp edges on either side, extending to the point, making a cutting surface of 16 to 18 inches.

Has a *draw cut* on the principle of a scythe, or as you would hold your knife or any cutting tool, and cuts to the *best* advantage.

Will scour in *any soil*, because it has curves like the mold-board of a steel plow.

Cannot well break, as central ridge is great support.

Prices, No. 1. Ladies' and Garden Hoe, $1.00 each; No. 2, Garden and Field Hoe, $1.25 each; No. 3, Field Hoe, $1.25 each.

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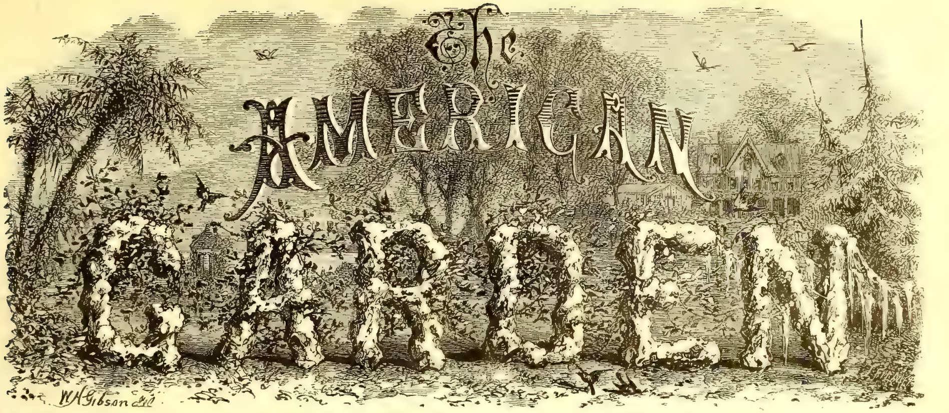

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The American Garden.

A MONTHLY ILLUSTRATED JOURNAL.

Devoted to the Gardening Interests of America.

ONE DOLLAR A YEAR

SINGLE NUMBER, 10 CENTS.

DR. F. M HEXAMER, : : : Editor.

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PRESERVING PLANTS.

Our last month's remarks about the study and observation of natural objects suggested to some of our readers the pertinent inquiry of: "How to make a Herbarium?"

In a small way, as keepsakes merely, plants may be dried between the leaves of a book with soft paper; but, to make a Herbarium for botanical studies requires more care, yet expensive or complicated apparatus is not necessary.

Two pieces of board, a little larger than the paper to be used, a quantity of drying paper, and a stone or other weight, is all that is needed. If, in addition to drying papers,—for which unsized newspapers or any kind of porous paper are suitable—single sheets of light printing paper are used, the changing of the "dryers" becomes considerably facilitated.

On one of the boards are placed several thicknesses of drying pads, and on these one of the single sheets. The specimen, which should be as perfect as possible, showing all the essential parts of the plant, is then spread upon it, so that all the organs of the plant are plainly visible when dry, and yet that the natural form is not changed more than is necessary.

Leaves and flowers and stems should not be crowded upon each other, else the plants will not dry well; and when this is unavoidable, small pieces of paper should be put between the crowded leaves. A single sheet is placed directly on the plant, followed by a drying pad; on this another sheet and another plant, and so on. When all specimens are thus disposed of, a few additional layers of dryers are laid on the top and covered with the second board. On this is placed a weight of about twenty-five pounds.

After twelve hours the weight is removed, the drying papers are changed for dry ones, without disturbing the plants between the single sheet, and the weight replaced. This process has to be repeated every twenty-four hours, until all the most succulent parts of the plant are entirely dry. The dry specimens are then arranged upon dry, clean papers, and properly labeled with their names, locality, and date when found.

MRS. OR MISS.

How much annoyance there could be saved if we had a common title for ladies, both married and single, as is the case with gentlemen, who may be addressed Mr., without regard to their married or single condition.

It is, of course, to be supposed that every lady knows herself whether she is a Mrs. or a Miss, but she has certainly no right to insist that everybody else should be possessed of this information, much less has she a right to be offended when a stranger, by seeing her initials only, is in doubt whether Mrs., Miss, or Mr., is the proper and decorous prefix.

In a letter before us, the writer, who kindly informs us that she is decidedly a Mrs. and also that she is "a lady by birth,"—which latter information is of special interest, as we could certainly not have surmised it from the tone of her letter,—complains fiercely about the incivility and rudeness in addressing her with her initials only.

Now, nothing could be farther from our intention than to insult a lady, and especially "a lady by birth," by addressing her without her proper title; but how can any one, without previous instructions, and no other guide but initials, find out whether the writer is a Mrs. or a Miss, and without a photograph it would be even impossible to tell whether the writer belongs to the fair or sterner sex.

We would not for any consideration be considered rude by our esteemed lady correspondents, and beseechingly ask them for assistance in this dilemma.

Please sign your names with the prefix of *Mrs.* or *Miss*, as the case may be!

TO ADVERTISERS.

Our September number will offer unusual advantages to advertisers, as we shall issue not less than twenty-five thousand extra copies, to be sent as sample copies to as many persons interested in gardening and other rural pursuits. No extra charge will be made for advertisements in this number, so that advertisers will receive many times their money's worth. A beautiful colored plate of the new *Clematis coccinea* will also be presented to our subscribers.

Please send advertisements early.

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The Vegetable Garden.

SEASONABLE HINTS.

A good gardener will keep his ground under tillage through the entire season, if for no other reason than to prevent weeds from going to seed. There are many crops which may still be sown and yield profitable crops.

Bush Beans for using fresh may be sown up to the end of the month. If sown early in August and proper care is given they will ripen before frost, and may be preserved for winter use, or sold. There is no more nourishing and easier grown vegetable than Beans, yet in most gardens there is seldom more than one planting made.

Sweet Corn.—Darlings, Dolly Dutton, Early Minnesota, and other early varieties, if planted now, will still produce "roasting ears," unless unusually early frosts should occur. It is well worth running a little risk, and even if the stalks should become nipped by frost, there can be no great loss, as they can be fed to cattle, or may be used for covering Strawberry and other plants.

Peas, to give satisfaction in hot weather, have to be planted deep, about six inches. They should be covered but three inches at first, and have the soil drawn toward them as they grow, until the furrow is entirely level.

Onions should be gathered as soon as the tops fall down and the roots begin to shrivel. They should then be raked in winrows and left a week or two to cure. When dry, the tops should be cut off about one inch from the bulb and the Onions spread thinly over the floor of an out-building, where they are to be turned over occasionally. Treated in this way they keep better than when left in the ground till fall.

Late Cabbages, for winter use, may still be planted. Ground that has been well manured in spring, and from which early Potatoes, Peas, Beets, or other vegetables have been removed, is in the very best condition for a good crop of Late Cabbages. A top-dressing of some good, concentrated fertilizer, raked in before planting, will give the young plants a vigorous start. If a moist or cloudy day can be selected for planting, so much the better. If not, it is best to set the plants out toward evening. The long tap-roots should be shortened in and the soil pressed firmly around the newly set plants, so that each plant is fastened so firmly, that, when the edge of one of the leaves is taken hold of by the thumb and finger, the piece of leaf would be torn off before the plant could be pulled out of place.

Saving Seeds.—Many of our best varieties of vegetables were produced by careful and continued selection. Every one who has a garden may improve his stock from year to year so that it will become better than any that can be bought. It is a poor plan to sell or use all the best and save for seed what is left. It is like "selling the goose that lays the golden eggs." The earliest and best should always be saved for seed, by marking off a part of each row from which no one should be allowed to pick until the seed is selected. It is better to plant separate plats for seed-beds than to sow what is not good enough to eat.

OUR PREMIUM PEAS.

The American Racer Pea offered as one of our premiums this year seems to have given general satisfaction. All the reports received so far speak of its great productiveness and excellent quality.

Mr. Horace C. French writes from Western New York: "As you requested a report on the American Racer Pea, I send my experience with it, and the American Wonder, so you can better judge of the former by the latter. Both were planted in ordinary garden soil, with no fertilizer, save a little stable manure, and with ordinary amateur culture, which, as you are probably aware, is generally not the best.

"Both were planted on May 4th; came up on May 18th. The Wonder was in blossom June 16th; Racer, June 14th. The Wonder has (at this date, July 8th) five to ten pods, each containing seven to eight peas; the Racer has fourteen to twenty pods, containing seven peas. The Wonder is twelve inches high; the Racer, three and a half to four and a half feet. The Wonder was through flowering on July 7th, on which date the Racer was still in flower and more coming. The first mess was picked off the American Wonder on the 4th of July, when the Racer had, also, some large enough to eat.

"The American Racer, commencing from about the fourth whorl of leaves above the ground, sends out a branch from each whorl, on the end of which are two pods. These vines seem to be growing yet, and as they grow, new blossoms appear. From present indications they will bear till killed by frost.

"The season was so backward, cold, and wet, that both kinds grew slowly and came to maturity with a degree of slowness that agitated my anxious waiting, which latter expression, I believe, intelligently expresses my feelings upon the periods aforesaid."

TURNIPS.

The easiest grown and least expensive vegetable for the garden as well as the farm is the Turnip. It adapts itself to nearly all soils and succeeds on clay as well as on light loam. Hardly a farm can be found which has not land admirably suited to its growth; many nooks and corners near the barn-yard, which have received the washings and drainage from the manure-heap, are highly enriched and are in the best possible condition for successful cultivation. Land from which early Potatoes, or other early summer crops have been taken will produce a fine crop of Turnips, especially if it was manured in spring; if not, a light top-dressing of fertilizers will produce the desired results.

Any of the *Strap-Leaved* or *Globe* varieties may be sown up to the end of this month, and every spot in the garden that is not needed otherwise should, as soon as it becomes vacant, be sown with Turnips. The labor and cost of seed is so inconsiderable that even if there should be a larger crop than can be used in the family or disposed of otherwise, they are worth more than their cost as green manure if left in the ground.

Ruta Bagas require more care and better cultivation. They have to be planted in drills and kept thinned out and cultivated carefully, and have to be sown not later than the first of August.

THE WHITE HORTICULTURAL BEAN.

To my article some time since, in THE GARDEN, upon White Beans, I want to make the addendum of a white variety of the Horticultural Pole Bean, which has lately come to my notice. The Horticultural has long been a favorite garden Bean in New England, and, notwithstanding its color, is used in many families as a baking Bean. The white variety will be welcomed, therefore, as an improvement for that purpose. It is as great an advance on the speckled Horticultural as that was on the old red Cranberry Bean.

DR. T. H. HOSKINS.

CORN CULTURE IN GARDENS.

We have often urged the planting in drills of all vegetables grown in the garden, as not only more economical but easier. Many have adopted this plan within latter years, but with Corn the old prejudice holds on more tenaciously than with other vegetables, in relation to which the *Germantown Telegraph* says:

"In field-culture Corn is planted in hills. Some have tried growing it in lines or drills, and have obtained more Corn. There is not the same chance for three or four plants feeding together in one hill that there is for a single plant alone, and with nothing nearer to it than a foot or so. Three plants a foot apart will give more Corn than three plants in one hill, three feet from another hill. This is not only reasonable, but it has been verified by actual facts. But the increase crop does not pay. The horse-hoe cannot work but one way when the Corn is in drills, and then the horse has to be idle in the stable while the driver takes the slow hand-hoe to clean out the weeds in the row. But the field-practice—proper enough in the field—has been carried to the garden, and Sweet Corn for the table is treated just as if it were a field-crop. In gardens where hand-labor is exclusively used, there is no reason whatever for growing Corn in hills. One can have better Sweet Corn by sowing in rows than in hills, while the labor is in nowise any more.

"To insure a constant supply of Sweet Corn for the table, there should be several different plantings through the season. The first planting (of dry seed) should be made not earlier than the 20th of April; the next planting ten days after, and then follow other plantings, from ten to twelve days apart. These plantings will afford a daily supply of the most delicious of all vegetables set upon a table, up toward the end of October, or until sharp frost intervenes.

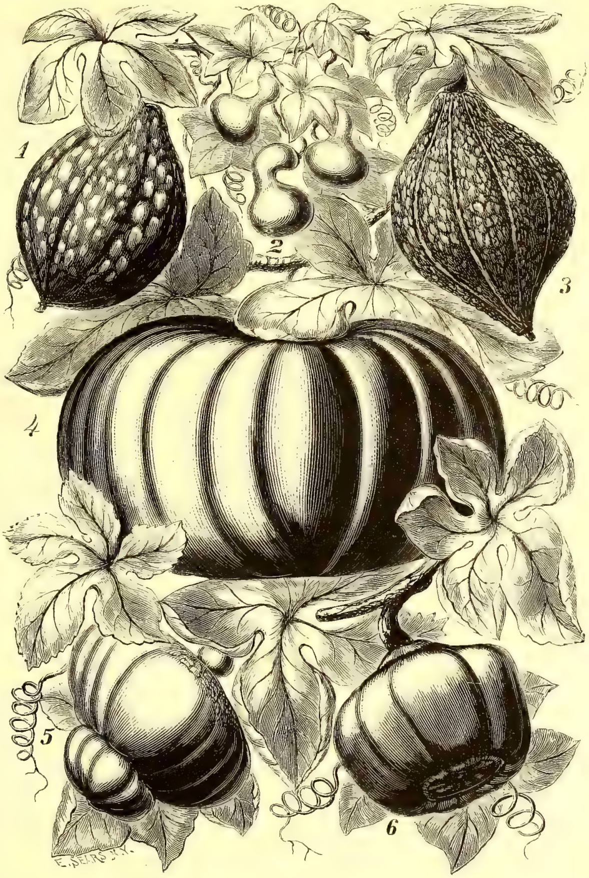
"Some weeks ago we referred to a method communicated to us by Judge Miller, of Missouri, a noted horticulturist and nurseryman, of obtaining corn for the table a full week earlier than by the ordinary way. This was, that, as soon as the ear was formed, to break down the top, but leaving it sufficiently erect that the pollen of the tassel may dust the silk of the ears, as they may not be fully impregnated should the stalk be topped and the tassel be removed. Repeated experiments made had convinced him of its real value, and we mention the matter again in order—as the time is near at hand when the experiment may be tested—to recall attention to it and reap whatever advantage there may be in it."

THE SQUASH.

As the Squash is of tropical origin, it is altogether useless to sow the seed until the ground becomes warm, and all danger of frost is over, which in this latitude is about the middle of May. Indeed, there is nothing to be gained by planting earlier, for when once established they grow with extreme rapidity and great luxuriance.

The Squash is highly prized by many, and with a little care and attention as to the proper selection of varieties and the preservation of their fruit, they can be had in perfection for at least nine months in the year. It is also a vegetable that requires but little skill and care in its cultivation, and although they will grow readily in almost any soil, yet they will more than repay a liberal and generous treatment, and as they delight in a warm, rich soil, it is best to manure in the hill, care being taken to break the manure up well, and also to thoroughly and deeply incorporate it with the soil. At least a dozen seeds should be placed in each hill, and when the plants become strong and well established, all should be removed with the exception of three of the most promising. When young, the plants should be sprinkled occasionally with air-slaked lime, ashes, or soot, in order to preserve them from the attacks of the bug.

There are numerous varieties of the Squash, some being of a yellow color, others pale green, and some mottled or striped; again, some are smooth and hard, others warty and rough; they are usually classed as winter and summer varieties, but from a cultural stand-point it is preferable to class them as bush and running. For the bush varieties the hills may be placed about three feet apart, and for the running sorts six or eight. Good stable manure is to be preferred. As some sixteen or twenty varieties are enumerated in the catalogues of our leading seedsmen, it is rather a difficult task for a novice to select a few of the best, and although some may differ with me regarding the merits of the varieties named below, I believe that any or all of them will prove to be satisfactory.



GROUP OF SQUASHES.

Where garden space is limited, and only one variety can be given one cannot do better than to choose the *Perfect Gem.* For amateurs I would have no hesitation in placing it at the head of the list, as it is excellent both as a summer and winter Squash. It is remarkably productive, the fruit being from four to six inches in diameter, and of a creamy-white color. It is also an excellent keeper in a cool, dry room, remaining in perfection until spring. It also has the peculiar property of setting the fruit near the main stalks before commencing to run; the vines occasionally reach the length of twenty feet.

The Early Bush Summer Crookneck is the best and richest flavored of the summer sorts. It is very early and is also remarkably productive, the fruit being of an orange-yellow color, covered with rough warty excrescences.

The Early Yellow Bush, Scolloped, is an abundant bearer. It is a good, early Squash. It is not as richly flavored as the preceding sort, but is earlier. *The White Bush, Scolloped,* is a variety of this, differing in color only Both varieties are more generally known under the name of *Patty Pan.*

The Turban or Turk's Cap Nos. 5 *and* 6, is an excellent variety for fall and early winter use. It is of a greenish-yellow color, occasionally striped with white. The flesh is thick and of an orange-yellow color, and of fine flavor when properly ripe.

The Yokohama is also an excellent early winter sort. The flesh is of a deep orange color, sweet and dry. It is said to be superior to any Pumpkin for pies. When in perfection it is a very desirable addition to our list of Squashes, but with me has proved to be very variable, some seasons being all that could be desired, and at other times almost worthless.

The Mammoth No. 4 is desirable for exhibition purposes principally, as the fruit can be grown to an enormous size, some specimens attaining a weight of over two hundred pounds.

The Winter Crookneck is of fair quality, and is a good keeper. The fruit is of a pale yellow color, with a long neck. It is much prized in the Eastern States, where it is extensively grown for fall and winter use.

Canada Crookneck No. 2 is a small, early variety of the preceding. It bears and keeps well, and is by many considered preferable.

The Hubbard No. 3 is a well-known sort, and is more extensively grown than any other Squash. It is the best table Squash yet known, and is a general favorite. It is an excellent keeping variety, with a dry, fine-flavored flesh, and a hard, flinty skin when properly ripe.

The Marblehead resembles the Hubbard in appearance, but is more productive than that well-known sort. It is also said to be a better keeper, but I do not find it to be any improvement in this respect. Its flesh is lighter in color than the Hubbard, and is of excellent flavor, sweet and dry, and is a very desirable variety.

The Butman resembles the Hubbard in size, but can be readily recognized from all other sorts by its bright-green color, being occasionally striped with white. It has a thick shell and cream-colored flesh. Its flavor differs from all other varieties and is dry and sweet.

The Boston Marrow No. 1 is very highly esteemed by some, and is the most popular kind in the Boston markets. The flesh is of a deep orange color, and is finely flavored.

Chas. E. Parnell.

WINTER RADISHES.

Winter Radishes should be sown during August. The *California Mammoth White Winter Radish* is the best variety. It is of good, mild flavor, and may be kept in good condition all winter in a cool cellar, if covered with sand. As with all Radishes, quality depends largely upon quick growth.

The Fruit Garden.

SEASONABLE HINTS.

Strawberries.—In many sections the crop has been an exceedingly poor one. The plants had wintered badly, and although the weather during the bearing season was favorable, the plants were too much enfeebled by last year's severe drought to produce a full crop.

It is a poor plan to attempt to rejuvenate an old, worn-out and neglected Strawberry bed. It is much cheaper and more satisfactory to plant new ones. Old Strawberry beds are the favorite breeding-grounds of the June beetle, the larvæ of which—the white grubs—are most effectually destroyed by plowing or spading up their habitations.

Raspberries and Blackberries should have the new canes cut off at a height of from three to four feet. This strengthens the canes so that they will stand upright without stakes, effecting considerable saving in time and material. Only three or four of the healthiest shoots of each stool should be allowed to grow, and all other sprouts should be cut away. It is impossible to raise a first-class crop of berries and a crop of plants at the same time.

Summer Pruning of Grape-vines is decidedly losing in favor. Many of our largest and best Grape growers do not prune at all during summer, or confine the operation to an occasional finishing off of a few too rampant growing shoots. Intelligent vintagers who have tried both methods think that the benefit derived from summer pruning is, as a rule, not worth the time and labor bestowed upon it. In small vineyards, when extra choice fruit is desired, summer pruning, when combined with judicious thinning of imperfect bunches, may produce the desired result, but it must always be borne in mind that it is the sun's action upon the leaves, not upon the fruit, that effects the ripening of the latter.

A skeptical friend, who to disprove this theory pulled off every leaf from a vine loaded with beautiful bunches, found to his dismay that shortly after the operation not only every berry shriveled up and dropped, but the vine itself died, rather than become again subjected to such barbarous treatment.

Bagging Grapes.—The use of bags as a means of protection against the depredations of insects and birds is rapidly gaining favor. The process consists in placing cheap manilla paper bags, such as are used in stores, over the half-ripe bunches. The bags have, of course, to be large enough to admit of the increasing size of the bunch. The crease on the side is usually opened a few inches, to admit the bending over of the edges and the closing of the bag, which is afterward fastened with a pin or string. Some make a small hole in the bottom of the bag to allow the rain water to run out, but there is little need for this if the bags are well secured at the top. These bags, although fully exposed to the weather, last a whole season. This bagging is found to increase the quality of the Grapes considerably, and admits also of leaving the bunches longer on the vines, the paper providing complete protection against light frosts.

MANCHESTER AND HOVEY NOT IDENTICAL.

Our first impressions of the Manchester were so favorable that we did not hesitate to pronounce it a most valuable new variety, possessing more desirable qualities than any other kind we were acquainted with, and never for a moment doubted its being a distinct variety. Yet the careless statement of Mr. Hovey found many believers who accepted the identity of the Manchester with the Hovey without examination. The error of this assertion is now so plainly proven that all doubt is dispelled.

As a matter of justice to Mr. Hale and Mr. Lovett, the introducers of the Manchester, as well as in vindication of our own statements, we feel it our duty to give room to the following communication:

Editor AMERICAN GARDEN.

Early last spring my attention was called to the fact that Messrs. Hovey & Co., of Boston, in their catalogue for 1882, closed their description of the Hovey Seedling Strawberry by saying, "after nearly fifty years of successful cultivation, this variety is now being introduced under the name of Manchester."

No simple hint that it might prove to be the same, but a plain, broad statement that Manchester was nothing more than the old Hovey under a new name. This statement, coming from such a well-known firm as Messrs. Hovey, who certainly ought to know their own pet child after over forty years of care for it, naturally attracted the attention of Horticulturists all over the country, and led to much discussion in the Horticultural and Agricultural press; consequently letters began to pour in upon us, accusing us and other nurserymen of palming off an old and now obsolete variety for a new and valuable one; some even refusing to take plants they had ordered, and others declining to pay for those already received. To all such we wrote, "that Mr. Hovey knew very little of the Manchester, having never seen the plant, and the fruit only once, and that as exhibited by us at the Massachusetts Horticultural Exhibition at Boston, June 28, 1881, at which time, in connection with the Longfellow, it took first prize for the best new varieties on exhibition, and that as soon as Mr. Hovey saw the strong, vigorous plant with its load of fruit he would at once admit that it was entirely distinct from the Hovey Seedling."

At the Nurserymen's Convention in Rochester in June I was beset on all sides in regard to the matter, and was asked in all seriousness by some, if we were not really afraid that the two were identical, and would so be proven at fruiting time this year, showing conclusively that the impression was gaining ground (even among those that ought to have known better), that the two berries were really one and the same.

Now if the two were really alike in every other particular, the fact that the true Manchester always has from ten to twenty fruit-stalks to a single plant, while the Hovey never has more than two and seldom but one, should have convinced every intelligent grower early in the season that they were entirely distinct varieties, even if they doubted the statements of such high authorities as Dr. Hexamer, Peter B. Mead, E. Williams, Wm. Parry, P. M. Augur, E. P. Roe, and many others that saw it in fruiting last season and pronounced it a new and most valuable variety producing enormous crops of delicious berries on poor, worn-out, sandy soil; so poor that I think the the Hovey would hardly grow there, much less produce any fruit.

Thus far I have refrained from saying anything in regard to the matter in print, wishing before doing so to once more exhibit the fruit and plant as well at Boston, where Mr. Hovey could have ample opportunity to compare it with his favorite, and thus be able to render a more just verdict than that of last season.

This opportunity was offered at the annual Rose and Strawberry show of the Massachusetts Horticultural Society, June 30th, and the following is an extract from a letter received from Mr. C. M. Hovey, and dated at Boston, Mass., July 4, 1882:

"Messrs. Hale—Gents.

"I am glad to have this early opportunity to reply, because if the specimens of the Manchester Strawberry exhibited by you last Friday are a fair sample, I must frankly acknowledge my great error in considering it a synonym of the Hovey, for there is no comparison or resemblance, only in the single fact that both are pistillate."

The frank acknowledgment of his error by Mr. Hovey settles the whole matter in dispute; and I ask for the publication of this letter, not only to clear our firm and other nurserymen from the imputation of sending out an old and worn-out variety for a new and valuable one, but for the benefit of the general public, who are greatly interested in this valuable variety which, from present indications promises to be planted more extensively during the next few years than all other sorts combined, on account of its vigorous growth, great productiveness, and firmness to bear transportation, as well as the perfect form and bright color of the fruit.

The one great injury that is coming out of all this talk of its being the same as the Hovey Seedling, is that some unprincipled dealers are sending out plants of the Hovey as the true Manchester, and many people are being tempted into buying them because they are offered at a lower price than the genuine Manchester; and while we know of no way to prevent this great fraud, the public can protect themselves by buying only from nurserymen of known reliability, and I am happy to say there are plenty of such in every State in the Union.

J. H. HALE.

South Glastonbury, Conn.

LARGE STRAWBERRY CROP.

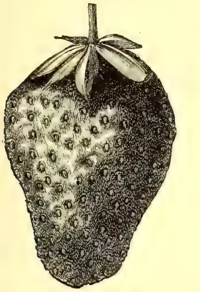
Mr. Frank Freeman, my next-door neighbor, gathered from his Strawberry-bed, ten feet by twenty-eight, this year, one hundred and ten quarts. The variety was Wilson, planted one year ago last May, from runners of the year previous, in hills two feet apart each way. The berries were from medium to large, and quite uniform to the last. The soil was stiff clay, and the bed kept free from runners and weeds. The place was one side of the garden, with no extra fertilizing except being covered with coarse stable manure last fall, raked off clean this spring. Mr. Freeman's garden is in good condition for common garden purposes. If any of the readers of the AMERICAN GARDEN can beat this, let them tell us how it is done, and be as particular in the description as I have been in this.

REV. E. HATHAWAY.

Middleport, Niagara Co., N. Y.

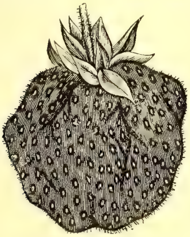
SOME GOOD STRAWBERRIES IN 1882.

Passing over the Strawberry field, with the leaves sear and brown from the intense heat and severe drought, it would be hard for one who did not see it to realize what a grand harvest was there to be gathered but a few weeks ago. In truth, what a glorious season for the Strawberries was the one just passed! While all varieties were, to a greater or less extent, wanting in sweetness, owing perhaps to the cool weather, yet there was a full supply of moisture — the great need of the Strawberry — throughout the fruiting season, and in consequence an abundant yield of large, fair berries on the plants of almost every variety. In fact, I scarcely remember a year when so many varieties did so admirably. First and foremost is the Manchester. Taking everything into consideration, with all candor, this was much the finest of all. Not only was it the finest Strawberry that I fruited in 1882, but the finest I have yet fruited. Large, handsome, firm, wonderfully prolific, and of superior quality, with a most robust plant, it leaves little to be desired; except that its blossoms are pistillate. It ripens in mid-season and continues till very late — so late that I gathered it in goodly numbers a week after all other varieties, with the exception of the Marvin, had passed and gone.



BIDWELL.

Warren was also signally fine. Berries very large, and possessing many other properties that go to make up a good Strawberry; it is a most fitting companion for the Manchester; ripening, as it does, early in the season. In quality it is eminently sweet and mild, and owing to this alone will find many admirers, especially the friends of old Seth Boyden or No. 30.



MINER'S PROLIFIC.

Longfellow well sustained its reputation as a large, fine, desirable berry, with its distinctiveness of form and consistency of flesh. This partakes so largely of the grandiflora species, I find it must be given high culture to have it succeed.

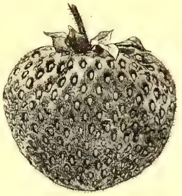
Sharpless still leads the van for size. Truly this is a grand berry, not only for the amateur but for the fruit-grower as well, when properly treated. I find it succeeds best on sandy loam — even better than on very heavy soil — if highly fertilized; and it must be given manure, manure, and more manure, to have it do anything near its best, plant it where you may.

Hart's Minnesota.—Exceptionally attractive, good size, and of high, rich flavor, while the plants yield an excellent crop; as an early berry this was a fine success. From what I saw of it in 1881 I feared it would not be productive, but should it continue in the future as it was the past season there will be no cause for complaint in this direction, or in fact any other.

Satin Gloss.—An offspring of the old Lady Finger. Being the foremost of the group, this may engage the good opinion of the circle of admirers of the belle "of days gone by"; as it is decidedly more productive and somewhat larger, retaining the properties of its ancestors.

Champion, or Windsor Chief, as usual, was one of the most prolific and profitable kinds. If left on the plants until thoroughly ripened, the quality is unsurpassed, but like the Wilson it reddens before it is ripe.

Mount Vernon has proved eminently satisfactory as a late berry, lacking firmness only to render it very valuable. For the amateur or with those who have a market close at hand, its large size, fine form, bright color, productiveness, lateness, and good quality will cause it to be eagerly sought after.



MANCHESTER.

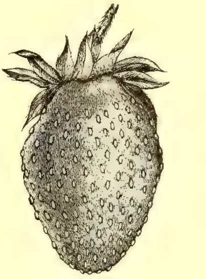
Gypsy.—In combination of excellences I would place this *third* of the collection, being surpassed only by Manchester and Warren. It is not large, but of perfect shape, and exceedingly regular in form and size. In general appearance the fruit resembles the old Wilson, but is so far superior in quality as to render a comparison impracticable; while it is nearly or quite as firm, retains its brilliancy after gathered, and is even more vigorous and productive. Of the various varieties none stood the terrible drought of 1881 so well as the Gypsy, and I am inclined to think that it will take a foremost place, both as a variety for market and for the home garden. The blossoms are pistillate.

Cumberland Triumph is still a triumph for fine form, and other good qualities. While moderately firm, its flesh is too tender to bear long shipment. With the exception of this objection, and that it is scarcely so productive as desirable, it approaches, I think, the ideal Strawberry.

Charles Downing, like the honored gentleman whose name it bears, was as truly venerable as ever; but, I regret to note, was again attacked by the blighting influence of the fungus on its foliage as of late, thus impairing its fruitfulness. As it would seem that all varieties of the Strawberry deteriorate after a time, so apparently this grand old sort is now in its declining years.

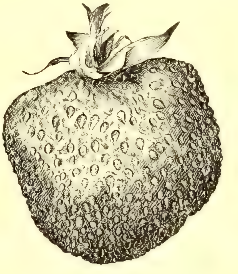
Miner's Prolific was again among the choicest, being quite like the Downing in a general way, with clean, healthy foliage, and, as its name implies, decidedly productive, of large size, and of excellent quality.

Glendale as a berry for *market* was one of the finest of the season. It was prolific, exceptionally firm, of good size and of bright color. Being late, it came into market after the rush, and in consequence commanded good prices; but it is too acid to please most palates. All who wish Strawberries for "doing up" should grow the Glendale, as for canning it is incomparable.



LONGFELLOW.

Bidwell behaved so differently from what I had hoped and anticipated, that I hesitate before naming it in a select list of scarcely more than a dozen sorts. It possesses merit, however, and should not be condemned without qualification; for is it not of splendid color and of fine quality? Further, it ripens early, in advance of almost all other large varieties. Apparently it "sets" so many berries that the plant with its scanty foliage, is unable to perfect them all, hence requires high culture and the best of soil. Under such conditions it may prove profitable for market, but only then do I think it will be. Owing to its desirable properties, even with its perfecting but a part of its fruit, it is worthy a place in the garden of all amateurs, even those who cultivate but a few varieties.



WARREN.

Jersey Queen is truly a queenly berry, extra large, beautiful in appearance, and of good quality. So far it has not yet been tried extensively.

J. T. LOVETT.

The Flower Garden.

WITHERED.

I lift them to my drooping face;
My heart above them grieves;
Of all the beauty, not one trace
Lies on those leaves.

And yet, with trembling lip, I kiss
Each precious withered flower;
Baptized in tears, I still do bless
Their gentle power.

For none can know what feelings wake
In passioned heart like mine,
That hoards a trifle for sweet sake
Of dreams divine;

That gives to dust and ashes Love
Which lived in Hope's own bower;
That broods, with yearning pain, above
A faded flower.

Through shower of kisses, mist of tears
There rises from the Past
A vision that no coming years
Can overcast.

The small, white hand, so soft and true,
That gave those flowers away,
Still sparkling with the bridal dew
Of yesterday.

The smiling eyes, that seemed to gaze
Beyond Earth's cloudy rim,
As if their holy power could raise
Life's curtain dim.

The tender heart, so fain to shed
Its sunshine everywhere,
Oh, blossoms fragrantless and dead,
Yet once so fair!

O flowers, she loved, ye were so bright,
I took you as a sign,
For winsome words and laughter light
With flowers entwine.

And flowers and words and touch and tone
Seemed wreathed around my heart
In garland immortelle, that none
Might tear apart.

My cherished Hope! my cherished Flower!
Dear tokens that she gave,
I lay you—withered in an hour—
Upon her grave.

—*Chambers' Journal.*

SEASONABLE HINTS.

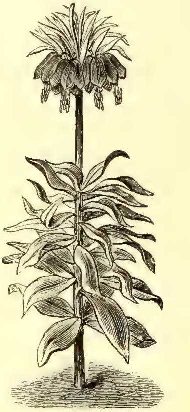
Cut Flowers.—Most persons do not cut enough flowers. Every blossom should be removed as soon as it commences to fade. The formation of the seed of a single flower draws more strength from the plant than a whole bunch of buds. The strain of producing seed is so great that plants do not rally even after these seeds have been removed: they have fulfilled their mission. The more flowers you cut, the more richly will you be rewarded with new ones, and the plants will grow more vigorous; they thrive under this kind of robbery.

Liquid Manure is a grand invigorator for stunted flowers, and it is poor economy to stint growing plants of their necessary nourishment. An occasional application of guano-water, or some other good liquid fertilizers, acts like magic.

Staking.—In tying up plants to stakes, which, with tall growing plants, as Dahlias, Gladiolus, Tuberoses, etc., generally becomes a necessity, avoid making the stake the most prominent object. The natural habit of the plant should be preserved as much as possible, and the stake placed so as to be entirely or partly hidden by the stem or leaves.

CROWN IMPERIAL.

This, one of our oldest garden plants, stands still unexcelled for brilliancy of effect among the earliest spring flowers. When neglected and starved, the plant does not present much attractiveness, but a well-grown and cared-for Crown Imperial, with its crown of rich, pendent, bell-shaped flowers, surmounted by the tuft of bright green foliage, is really a beautiful object.

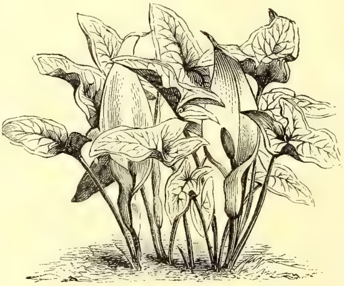


CROWN IMPERIAL.

They grow well in any good garden soil, but do best in deep, rich ground, and are much benefited by top-dressing of decomposed manure. They should be planted about six inches deep, and be covered in winter.

GUINEA-HEN FLOWERS.

These, botanically known as *Fritillaria Meleagris*, have peculiar nodding, bell-shaped flowers, one to two on a stem, and of a brownish purple, gray, or whitish color, much dappled or mottled. They blossom at the same time as the Hyacinths, and last through the Tulip season. They grow about twelve to fifteen inches high; are very hardy, and flourish among the bushes and the trees where the ground is much impoverished, but attain their best in a rich and slightly shaded border. Unlike the Crown Imperials, some Narcissus, Hyacinths, and a few other bulbous plants, that as they advance in age will waste in strength unless they have good living, the Guinea-Hen Flowers, if once you get them, will stay with you forever.



ARUM ITALICUM.

SOME GOOD OLD-FASHIONED FLOWERS.

I am fond of old-fashioned flowers. I have heard my mother say that my grandmother never thought of going to meeting, in the summer-time, without a sprig of Rosemary, or a cluster of Pinks, or Gillyflowers between the leaves of her hymn-book. I like the old custom, and I like the old flowers.

Now that the Sunflower is becoming popular, perhaps there will be a revival of interest in other flowers which our mothers and grandmothers made their gardens gay with. I hope so. Many of our modern flowers are very fine, but most of them lack the solid merit which belongs to the sturdy old inhabitants of the gardens of twenty-five and thirty years ago, and require more care and attention.

I always have an "old-fashioned corner" in my garden. Here, I grow Larkspur Marigolds, Poppies, Gillyflowers, Grass and Clove Pinks, Johnny-jump-ups, and Rosemary, and over the fence I train Sweet-peas, and Morning-glories. Perhaps it is because we see so few of these old flowers nowadays, perhaps because most lovers of flowers have a fondness for these old-time favorites, —any way my "old-fashioned corner" is the most frequented part of my garden. Last summer I cut a bouquet from it for an old lady who came to visit at a neighbor's. I put into it all the flowers I used to see in my grandmother's garden,—Bachelor's Buttons, blue as the sky above them, with daintily fringed petals, Pinks of beautiful color and delicious fragrance, velvet Marigolds, gorgeous in brown and gold, spikes of Larkspur in pink and blue, Sweet Peas in many colors and of a spicy sweetness that set one dreaming of "banks whereon the wild Thyme grows," and Gillyflowers that clustered along the stem like little Roses. How pleased the dear old lady was with the flowers! Her eyes sparkled, as she held them up to her face, and she touched them caressingly, lingeringly, as we do a friend we have not seen for a long time.

"It takes me back to old times to look at them," she said. "We used to grow every one of these flowers at home. It seems like seeing old friends. Mother used to think there was nothing half so sweet as Pinks. The day after she was buried, father took up a great bunch of them from her little garden, and set it on her grave, and when I was there last, there were Pinks growing there. I thank you for giving me so much pleasure. I love all flowers, but someway these old ones seem best and dearest. There's something homelike about them.

All the kinds I have named can be grown with the greatest ease. They do not need coaxing. Spade up the soil well, give it a dressing of manure, and, when all danger of frost is over, sow your seeds. All you will have to do, after that, is to keep the weeds down and see that your plants do not suffer for lack of water if the season is dry. These old flowers will give you an abundance of bloom, and you will have all you care to use for vases and to give to friends, and your garden will not look "as if it had been robbed at any time." Give the good old flowers a trial and see if you aren't better pleased with them than with the fashionable ones that need coaxing and petting, and then, half the time, prove failures.

E. E. REXFORD.

THE ARUM.

This genus comprises some of the most curious and interesting representatives of the vegetable kingdom. Most species are inhabitants of tropical countries.

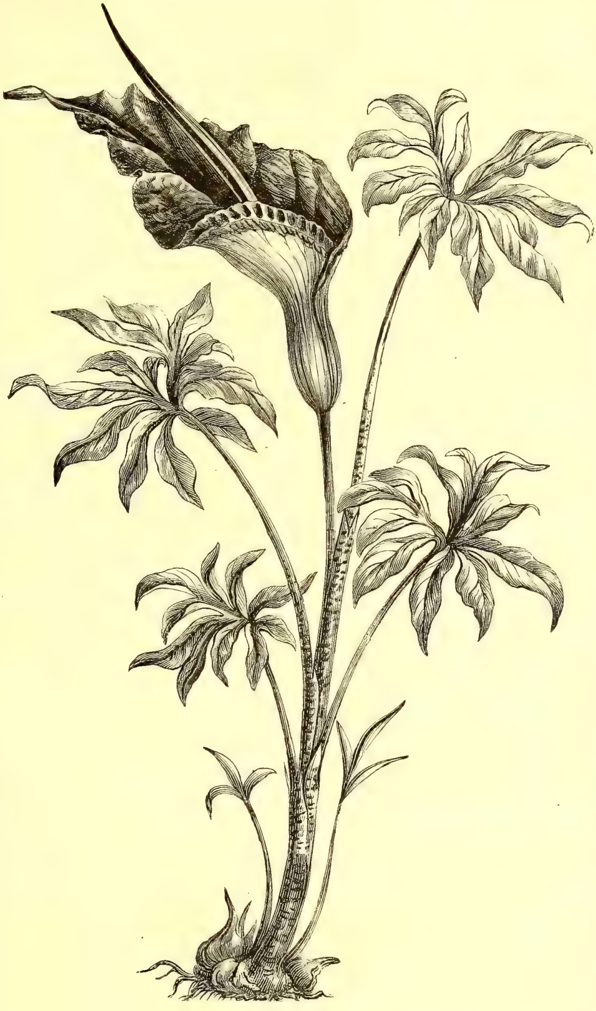
The roots of many, which, although in the fresh state contain an acrid, milky fluid, are when dried perfectly harmless, and constitute important articles of food. Other species from more northern regions are entirely hardy in our climate, and are easily grown as border plants, requiring not more care than the Gladiolus.

Arum Dracunculus.—The Dragon Arum is the best known and most striking of the hardy species. It is very showy when in bloom, grows several feet high, with a large, blackish-purple flower, and graceful, palm-like leaves. It may also be potted in autumn, in a sandy loam with a portion of peat, and will bloom in spring.

Arum Italicum is a smaller growing species, with greenish-yellow flowers, and large, lance-shaped leaves, spotted yellow.

Arum triphyllum is our native Indian Turnip, or "Jack in the Pulpit." The plant is curious and ornamental, both in flower and berry. It thrives well in deep soil in a shady situation, and often grows very large.

Arum cornutum and *A. maculatum* are also well-known species.



ARUM DRACUNCULUS.

THE CAPE POND WEED.

This most unhappy name is that given to one of the sweetest and best of water plants whose botanical name is *Aponogeton distachyon.* It is a native of the Cape of Good Hope, and, strange though it may seem, it is hardy in Massachusetts also, though it should be the reverse; it is one of the most uncommon plants cultivated in America. For many years I have known it to be pretty hardy, but I should never have trusted it to the mercy of a Boston winter but for the result of an accident. We grow a good many tender water plants, which we stand out in summer on a temporary stage set in a little pond where the water is three to four feet deep. In this pond are many gold-fishes, also several bull-frogs. In 1878, I set out three pots containing Aponogeton, but in the fall I could only find one, fishes or frogs had upset the other two. Next spring, however, consider my pleasure when I saw leaves and flowers from my two lost Aponogeton plants floating on the water in the pond. I made no effort to secure them, but left them there, and they have come up each succeeding year stronger than before. This is the fourth season of their growth in the pond, and now the largest plant had this year thirty-three blossoms amid a clump of some ninety-seven leaves.

The blossoms are pure white, speckled with little clusters of brown anthers, and are produced as a forked spike about three to four inches across; they are as fragrant as Heliotrope. And so early do they appear, that leaves come up and blossoms open in the water underneath the ice, and as the ice leaves the pond, they increase in strength and numbers. During summer they bloom more sparingly than in spring, and they continue to blossom a little throughout the fall. Our pond is lined with brick clay; there is no soil in it, unless it be a small accumulation of muddy sediment; the water is surface water only. But, although the Aponogeton has proved so hardy with us, I would not say it should be hardy if the frost should reach its roots.

As a house or greenhouse plant the Aponogeton is essentially a winter bloomer, beginning to grow and blossom in the fall and continuing till spring, when it may show signs of wanting to rest; then you can lay it aside in your cellar for the summer, as you would an ordinary Water Lily for the winter. In the house you can grow it in a milk plate, a pudding-pan, a flower-pot with the hole stopped up, a pail, or other vessel. Fill the vessel half full with turfy loam, plant the root in the middle and about an inch in depth, and over all, to suppress muddiness in the water, place a thin layer of coarse sand or fine gravel, then fill up with water and keep it full. Just keep it from freezing, warmth is unnecessary; that is all the care it wants. The root is a little bulb or corm about as big as a marble.

Wm. Falconer.

BLUETS.

(Houstonia cœrulea.)

This elegant indigenous plant, which is found wild throughout our Northern and Western States, and is well adapted for cultivation, has, like many other native beauties, to go abroad to find recognition. Among the flowers in season in England it is described as: "This gem among diminutive plants, known as *Bluets,* is flowering well on the rock-work in the Cambridge Botanic Garden. Its position is not that which would usually be accorded to it. Instead of being in a moist corner, where, generally, it is understood to flourish best and to be most under natural conditions, it is here, by accident, in the driest and most exposed spot that could be found. It is flourishing, however, and forms a tuft of great neatness and beauty."

Lilies are much benefited by mulching during dry, hot weather. Most of our cultivated species are natives of cool climates and grow naturally in damp localities, where the soil is covered with leaves or grass.

Lawn and Landscape.

ORNAMENTAL SHRUBS.

The proper selection of the kinds of shrubs best suited to the extent and general character of our lawns is always a matter of importance, and, even after a judicious choice has been made, the requirements of each kind should be regarded in planting. To obtain success, precaution must be taken as to their adaptability to soil, and that the more tender ones be placed in sheltered positions. Shrubs may flourish and be perfectly hardy on one spot, while but a short distance off they will prove a failure. The soil must be thoroughly drained and the wood well ripened, or else the shrubs will not stand the winter.

The Massachusetts Horticultural Society during the past year devoted several meetings to the discussion of this important subject, and the list below comprises the species most highly recommended by members of the Society.

Hydrangea paniculata grandiflora, though introduced here over a quarter of a century ago, and one of our most beautiful and desirable shrubs, has not been cultivated to any extent until a few years ago. The plant is perfectly hardy, and requires no care other than that bestowed upon our finer varieties of flowering shrubs. Hydrangea paniculata, of which grandiflora is a variety, has a finer foliage, is more graceful, and quite as hardy. Whether grown singly or in groups, the Hydrangea represents all that is grandest in a shrub, as *Exochorda grandiflora* does all that is most beautiful. To these may be added a third,

Viburnum plicatum, introduced into this country some thirty years ago, and, though neglected at that time, has recently taken its place among our handsomest shrubs. It resembles the common Snowball, but is much more delicate. It produces large trusses of pure white flowers in great profusion. The trusses are very compact and the individual flowers have great substance. It is not as common as the Hydrangea, being of slower growth and more difficult to propagate.

Viburnum macrocephalum resembles *V. plicatum*, only the cluster of flowers is larger. There are several native species well worthy of cultivation, and which thrive wondrously under a little attention.

Kalmia latifolia, also a native, is one of our most beautiful as well as showy flowering shrubs, though somewhat difficult to grow; yet, with proper attention to the condition of the soil, success will generally reward our efforts.

Prunus triloba is a beautiful shrub, with wreaths of rosy pink blossoms.

Spirea ariæfolia, *S. prunifolia*, and *S. Thunbergii*, are all fine, handsome shrubs, and readily cultivated. Thunberg's Spirea does not grow large, and is very appropriate for small places. It blooms in early spring.

Cornus sanguinea, the Red Dogwood, "is well known, and is desirable for its winter effects, its red branches being very showy when divested of their leaves."

Deutzia crenata-flore pleno. The double-flowering Deutzias are rapidly growing in favor, and they ought to find a place in every garden, large or small. The dwarf single-flowering is a charming plant, which, on account of its small size, free flowering qualities and hardiness, cannot be too highly commended for small gardens. It has ample, bright foliage, its flowers are snowy white, and are produced in great profusion early in June.

Weigela rosea has held its own against all new-comers, on account of its fine habit.

The *Rhododendrons* and *Ghent Azaleas* are too well known to need any description here. Few shrubs possess the attractions of these magnificent plants, and the admiration they excite should be a spur to their more general dissemination.

Clethra alnifolia and *Cassandra calyculata*, both native shrubs, are also very beautiful under cultivation.

Among shrubs of recent introduction, the following are named as being of great promise, and desirable for hardiness and beauty:

Clematis Davidiana and *C. tubulosa* are erect-growing species, from two to four feet high, and in midsummer are covered with beautiful blue flowers like panicles of Hyacinths. Unfortunately, they do not seed freely, and are difficult to propagate. *C. Davidiana* is the most desirable of the two.

Desmodium pendulæflorum, *D. pendulæflorum album*, and *D. Canadense*, are hardy on dry soils. All are suffruticose rather than shrubby. The first two are especially valuable on account of blooming late in autumn, when there are but few flowers. The flowers of the first are purple, and all are pea-shaped.

Styrax Japonica is perfectly hardy in dry soils. It has white flowers, similar to those of *S. Americana*, but perhaps a little larger. The latter is a very pretty shrub, from four to six feet in height, which ought to be in every collection. The flowers resemble those of *Halesia*, or Silver Bell.

Andromeda polifolia is a native species which under cultivation becomes one of the gems of the garden. The foliage is of a glaucous color. It is perfectly hardy.

Andromeda Catesbœi is of rapid growth and easily propagated. When planted with Rhododendrons nothing is more beautiful, and with the protection they afford is perfectly hardy; if not sheltered, the ends of the shoots are sometimes injured.

Andromeda Japonica is perfectly hardy. It wants to bloom too early in spring, but five years out of six it will be good.

Berberis Sinensis is perfectly hardy, grows two to three feet high, and is of drooping habit. When full of ripe fruit, it looks like a fountain of scarlet. *Berberis Thunbergii* has fine autumn foliage, and when the fruit, which is of a deep, rich, scarlet color, is ripe, forms a perfect picture. It is a low growing shrub.

Neviusia Alabamensis belongs to the Rose family; it has numerous bunches of pure white flowers, and is quite showy. Though from Alabama, it is perfectly hardy.

Erica vagans, *E. v. rubra*, *E. carnea*, and *Calluna vulgaris* all do well on thoroughly drained land, with a slight covering; if the snow blows off and leaves them bare, they burn.

Leiophyllum buxifolium has stood in the Botanic Garden at Cambridge for twelve years. It is a small evergreen bush, growing about one foot high. A larger form, from the mountains of North Carolina, has a larger leaf, of a more waxen appearance.

UTILIZING GRASS.

Grass is the cream of the soil. Every element in its composition has been drawn from the soil; and if that grass were returned, as it should be, to the hungry land, every leaf and stem would add to the productiveness of the seed-bed. Yet, a great many people who supervise the management of lawns and gardens, direct every green thing in the form of grass to be cast on the beaten track of the highway, as if such plant-growth, if allowed to decay where it grew, would exert a pernicious influence on the fertility of the land.

There is no better fertilizer for lawns than the grass which the lawn-mower cuts down. The mown grass should never be raked off the lawn. If allowed to remain where it grew, every spear and stem will soon settle around the live roots of the growing herbage, where it will decay, and thus provide excellent pabulum for the roots that produced the crop. If grass and weeds must be raked off and removed, let all such accumulations be spread neatly around the vines of Strawberries, or near the bushes of Blackberries or Currants. If weeds and grass be collected in a pile, during hot and dry weather, every root and stem will soon die.

All the grass, weeds, and grass-roots that can be collected together, should be utilized for the purpose of mulching growing plants. Decayed grass will make rich land, and will keep the surface of the soil mellow. Don't allow grass to be wasted. S. E. T.

PRESERVING RUSTIC WORK.

The difficulty to preserve in our climate natural wood when exposed to the influences of the weather, deters many from the employment of this kind of lawn furniture. The *Country Gentleman* suggests a cheap and easily applied remedy which seems to answer its purpose well: "Rustic work, if neatly and tastefully constructed and cautiously introduced in the more wild and picturesque portions of ornamental grounds, may give a very pleasing effect. But if fully exposed to the weather, without any kind of protection, it speedily decays,—a result which is hastened by the slender young material used and the numerous joints and crevices where water can enter. Nothing can appear much worse than decayed and broken seats, distorted summer-houses, and crumbling and rotten bridges. To avoid these bad results great pains and expense are sometimes incurred in procuring branches and poles of red cedar or other durable kinds of wood; but a cheaper and more lasting way to prevent this difficulty is to apply two or three heavy coats of crude petroleum to any kind of wood employed, by means of a coarse brush, the oil quickly penetrating the pores and entering the cracks and joints. We have now on our grounds lightly constructed work of soft and perishable wood, which has been exposed to the weather for fifteen years without any sign of decay, having been well impregnated, when new, with petroleum."

Beauty in nature is fortunately more lasting than the dictates of fashion. More than three hundred years ago *Bacon* said: "There is nothing more pleasant to the eye than green grass kept finely shorn." The same is true to this day and will be so for all time.

The Window Garden.

THE HERBACEOUS CALCEOLARIA.

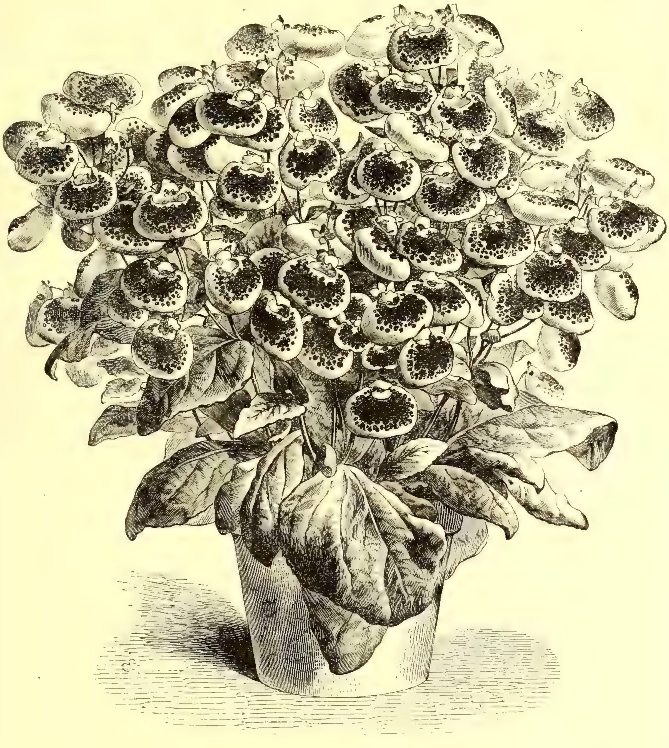
Among the many varieties of plants under the title of florists' flowers, perhaps none is more strikingly handsome than the Herbaceous Calceolaria. Yet, outside of the green-house of professional florists, or at exhibitions, they are seldom seen. The following directions, given in *Carter's Practical Gardener*, are useful and timely, and should enable any one having a green-house to grow these beautiful flowers.

The seed should be sown in July or August in well drained pans, the drainage being covered with some rough siftings of loam and peat, filled up with prepared soil, finishing the surface with a finely-sifted compost of peat and loam, in equal parts, with plenty of silver-sand. Water the pans with a fine rose-can. Sow the seed immediately, by scattering it over the surface of the soil, which should be half an inch from the rim of the pan; place the pans, covered with squares of glass, in a shady position, the north side of a wall being a good situation. Care should be taken to keep the sun from them, and the soil must be constantly moist, as, if allowed to dry, even for an hour or two, failure will ensue, even with the best quality of the seed, which with care would have germinated well. As soon as the seeds show signs of germinating, the pans must be placed in a cold frame or under a hand-light, and should be closely watched and not allowed to get dry. As soon as the seedlings are large enough they must be pricked off about two inches apart, in pans prepared in accordance with the instructions already given. If not specially attended to now, the young plants are apt to damp off, sometimes so rapidly as to be beyond recovery before the damage is noticed. As soon as the plants touch each other, pot them off in small pots, using good, light loam and decayed manure, from an old hot-bed, and a liberal sprinkling of coarse silver-sand. Many use leaf-mold; this cannot be recommended, as it often turns sour and causes the plants to grow weakly and ultimately die. They should be removed into larger pots as their growth requires, and on no account must they be allowed to get root-bound, or they will soon become infested with the green fly, a very troublesome insect and very injurious to the plants. In fact, if the earth is permitted to become infested with aphides, all attention as to soil, timely potting, regular watering, and ventilation will avail little, for it is utterly impossible to grow good plants and green-fly too. Fumigations, therefore, must be frequent. It is far better, safer, and more economical to fumigate very lightly, to prevent insects, than to permit them to increase, and then fumigate strongly to destroy them. The latter plan, which is far too common, is the greatest mistake that can be made in gardening practice.

The most suitable place for plants during the winter months is a pit where there is sufficient heat to keep out the frost; but in no case must artificial heat be resorted to unless it is absolutely necessary. They flourish very well on shelves in an ordinary green-house during the flowering season. Great care should be given to the manner of admitting air; many plants are killed through inattention to this point. Hot sun, as well as cold, dry winds, cause great destruction, therefore they must be kept from the plants.

Watering, too, is another important feature. During the flowering period, when the pots are, or should be, well filled with roots, some weak, liquid manure can be given with advantage. Cultivation and selection has now rendered the best strains of this plant so dwarf that little staking is necessary, only such as will enable the branches to be tied out, to afford room for the expanding flowers.

The above instructions, communicated by a skilled and successful cultivator, cannot fail to be of service to the amateur who desires to have a rich and satisfactory display of Calceolarias. They are, indeed, indispensable for early summer decoration, and no green-house or conservatory can be satisfactorily furnished without a number of these easily grown and chaste, yet gorgeous flowers. For the home stage and exhibition purposes they are equally suitable; in fact, no group of plants, staged at the principal early summer shows, attract more attention than those of well grown Calceolarias. Almost everybody can grow the plants, and when seen in good condition it is certain that everybody will admire them. We commend them, therefore, with confidence to all lovers of beautiful flowers.



HYBRID CALCEOLARIA.

MIGNONETTE.

(*Reseda odorata.*)

This delightfully fragrant, modest little flower, although generally treated as an annual, is in reality a shrub, and may, with proper management, be kept for several years in nearly perpetual bloom. To have flowers during the greater part of winter, seeds should be sown in pots during July and August. At the approach of cold weather, the pots should be brought to a cool room, from which they are to be removed to a warmer one as soon as flower-buds are forming. All flowers past their prime should be removed at once, and not be allowed to go to seed.

Mignonette trained in tree-form makes a most desirable house-plant. To produce a Tree Mignonette, only one plant must be left in a pot. All side-shoots and flower-buds have to be pinched off as soon as they appear, and the stem trained to a stake. At the desired height the main stem is pinched off, and the three or four upper branches are left to grow, and have to be pinched in from time to time to produce side-shoots and the head of the miniature tree. They have to be kept well watered, and must be shifted into larger pots whenever the old ones become filled with roots.

Foreign Gardening.

THE BOTANIC GARDEN, PARA, BRAZIL.

In former papers we have had occasion to mention the Botanic Garden, which is situated on the Estrade of St. José, which, with its long lines of Royal Palms, is one of the finest streets of the city. It is just on the boundary between the old and new parts of Para, and, although most accessible — being only a very short distance from the center of the city, and one of the lines of horse-cars passing the whole front — its situation is, in other respects, most unfortunate.

The city of Para, as previously mentioned, is on a slightly rising ground, at the junction of the Para and Guama rivers, and in its highest point is very little above tide-water. In every direction are swamps, or land which is under water at very high tides, — when the water in the river is high, at the time of the yearly Amazonian floods, or after very heavy rains. The land near the junction of the two rivers we have mentioned is especially low, and it is in this direction that the wisdom of some fifty years, or more, ago laid out the Botanic Garden. At each corner of the large square — for it is of considerable extent — a Miriti Palm was planted, and this native of low delta lands alone justifies the choice of the location, for very few other trees have done as well as if the ground had been higher. The Miritis are magnificent; the great fan-like leaves are of enormous size, and the long bunches of maroon-colored seeds add much to the interest of the tree. The Assic Palms also find a congenial soil, but this graceful species, which might be used to such advantage, is but poorly represented.

The laying out and planting of the garden was not badly done; there is no stiffness or formality, and the paths wind among the trees, some of which are of large size. But, in order to grow anything, all the beds have to be raised, and during the rainy season, or in high tides, the paths become winding rivers, and are navigable for light canoes. We have not seen this mode of exploration adopted, but very often it would be the easiest way of viewing the garden.

Another great objection to the garden is the millions of biting ants which, in some parts, have honeycombed the soil, and which cover the plants, so that one touching them has good cause for repentance. This may seem strange, as the ants of temperate climates do not usually live in wet localities; but tropical ants, though more plentiful in sandy soils, do not seem to be especially averse to water.

Originally there were many rare plants in the garden, but most have been killed by the ants; and now, with some few exceptions, the trees are such as are common to the whole Amazonian delta. Some of these exceptions we will briefly notice. A most conspicuous feature is a very fine tree of *Ravenala Madagascariensis* — the famous "traveler's tree" of Madagascar — it is very tall, and the great leaves spread like an immense open fan. At the base of these leaves the water collects, and keeps sweet and fresh; each leaf yields about a quart, which is obtained by pressing the leaf-stalk. This tree is not uncommon in gardens in Para, and is called the "Fan-Palm." The Bread-fruit trees like a damp soil, and grow most luxuriantly, the deep-cut leaves attaining a great size, although the tree itself is seldom very large.

A very showy tree, whether we regard the fine, minosa-like foliage or the profusion of reddish-yellow flowers, is *Poinciana regia*, but it has not the beauty of evergreen foliage, as during the height of the dry season it drops its leaves. The Rose Apples (*Eugenia* or *Jambosa*) are well represented, both by native and foreign species; they are showy from the deep, glossy evergreen foliage, the large, white flowers with hundreds of starry stamens, and the bright fruit which in some species clusters all over the tree, in bunches of waxy pink. Guavas abound, and are always in flower and fruit, but the tree has little beauty, although the white flowers are pretty, and the fallen fruit always rotting on the ground is not attractive, even to butterflies; in Para, only negroes eat Guavas.

There are some beautiful specimens of the Screw-pine (*Pandanus*), which, with rigid, glaucous leaves, present a great contrast to all the surrounding foliage. The flowers look like great spiral wreaths of feathery white, and hang from the ends of the clusters of leaves; the fruit is very like, in general appearance, a roundish, flattened pine cone.

In the middle of the garden is a pond tenanted by a huge alligator, which stares at visitors with its glassy eyes, — a hideous, clumsy, unattractive brute. This pond was, a few years ago, very attractive, all the shallows being full of that most lovely of aquatics, *Pontederia crassipes* or *Eicherria speciosa*, botanists having recently decided that the plant is not a Pickerel-weed. And, indeed, it is beautiful enough, with its long spikes of delicate, blue flowers, to merit a distinctive name. Now not a plant is to be found in the pond, the shallows are festering mud-banks, and every part is choked with a coarse water-weed. Formerly all around the pond were immense masses of the bright *Amaryllis fulgida*, which bloomed with wonderful profusion, now very few plants are to be found. A list of the trees would be of very little interest to the general reader, as most have only botanical names, but among the shrubs some are worthy of notice.

A bright scarlet Ixora forms very large bushes, and is never out of bloom; Cape Jasmines (*Gardenia*) and *Tabernæmontanæ* are large enough to sit under and are profuse in flowers.

Erythrinas grow very large and glow with great spikes of Pea-shaped flowers. *Meyenia erecta* blooms all the year, forming bushes about four feet in height, and the dark purple yellow-throated flowers are very beautiful; the white variety, however, seems to be unknown in Para. A species of *Petrea*, with flowers which have a slight resemblance to violets in form and color, is very showy and bears great clusters of bloom. Of climbers there are few; not a Bignonia or a Passion flower, all, if they ever existed, having been killed by the water; but near the westerly end of the pond, close to the main path, is a specimen of *Roupelia grata*, which is worth a long walk to see. This rare and beautiful climber, to flower which in a greenhouse is a triumph, is here covering a large Mimosa tree; its trunk is a foot in diameter and its branches hang heavy with the rosy white wax-like flowers which fill the whole air with their delicious honey-like fragrance. Of bulbs there are very few; some great Crinums send up flower-stalks as thick as one's arm, and every night expand the great pink flowers, and there is an allied plant with glaucous leaves which has a crown of large, Lily-like, pendant blossoms. Some of the buds are masses of bright scarlet Heliconias, which are ever blooming and attractive, both in foliage and flower.

A tall lupin-like plant, with long spikes of bright yellow blossoms, is very conspicuous, and reproduces itself from seed so freely that it bids fair to take possession of the whole garden. *Dracæna terminalis* and *ferrea* are common, but they are rugged, unsightly plants; indeed, we have never seen in Para, common as they are, a good specimen Dracæna. With a view to money, the lessees of the garden have planted many of the dryer beds with Pine-apples, and the effect is very good.

Hibiscus and *Abutilons*, which grow in the tropics larger than Lilac bushes, or even small trees, and are often used for hedges, abound everywhere. We cannot undertake to describe the brilliancy of the flowers or the effect produced by plants with hundreds of their immense blossoms all in bloom at a time; this we must leave to the imagination of the reader.

The glory of the garden, if glory there can be where everything is neglected, is the Caladiums, called here Tajás, and these, for at least six months in the year, make the garden brilliant. They are chiefly of two kinds, *C. bicolor* and *Chantinii*, but lack of varieties is made up by quantity. There are masses fifty feet in diameter and four feet high, a blaze of color, and individual leaves which one could use as an umbrella. In some places it seems as if there were acres of them, and the flowers, which often stand well up in the foliage, are very large and pure white.

I was once told by a Brazilian that the Botanic Garden had nothing but Tajás, and, indeed, at times it seems so. Yet much of interest has escaped the neglect of the city council, and the garden is well worth a visit.

A word in conclusion. For years no money has been appropriated for the garden, and perhaps with good reason, for anything short of an enormous expenditure would fail to redeem the location.

But at least one disgrace to the city of Para could have been saved. A small annual expenditure would have left the garden as it is in order. Instead of this, however, the city, a few years ago, leased the place for five years, at a rent of two hundred milreis (about eighty-five dollars) yearly. The lessee built a dance-house and inaugurated a series of balls for classes of not the best reputation; then the police interfered and a tax was imposed which used up the profits of the dance and effected the object of their discontinuance, except on great feast days.

Since then the lessee has converted all available portions of the land into a vegetable garden and grows long rows of spindling Cabbage leaves and tall Okra. This is not reprehensible, but the practice of selling any plants, which he also freely indulges, threatens to divest the garden of the little, not too large to move, which remains of any value.

Edward S. Rand, Jr.

American Scenery.

GLIMPSES OF CALIFORNIA GARDENS.

May and June are the most enjoyable months in the gardens of California. The past winter was one of strange contrasts and long delays. Every one expected a dry winter, short crops, and general failure of vegetables and flower gardens, from the way in which the season began, but these gloomy predictions were happily disappointed. The rains, though so long delayed, came at last, and with unusual availability, there being few "northers." Curious episodes of cold weather and frosts occurred; the snow on the high sierras was of unusual depth; snow even fell among the Orange groves of the southern countries, but did no particular harm.

All in all, the Agriculture and Horticulture of California was never in better condition than during the spring of this year, though the remarkably late season delayed all sorts of outdoor work. Seeds and bulbs usually, in the central countries of the State, planted in the autumn, were not seldom delayed until February, or even later.

As usual in such seasons here, the rush and sudden beauty of the spring was, when it came, remarkable for its multiplicity of effects. Those gardeners who, despite the difficulties of the earlier portion of the winter, managed to have a good start made, were surprised to find how the usual lines of demarcation in bloom were almost entirely obliterated. There were some weeks just before Easter, when, contrary to the ordinary state of affairs, Roses about San Francisco were almost unattainable; and flowers at Easter were also scarce and higher than for years previous.

The sheltered and protected nook-gardens of Saucelito, San Rafael, Oakland, Piedmont, and other places about the Bay, where Roses and Camellias often bloom all winter in the open ground, without protection, and from whence the florists of the Pacific Coast metropolis draw their supplies, were to an unprecedented degree barren of floral treasures. To be sure there were some greenhouse Roses and other flowers of the season, but in more cases than one the heating facilities proved insufficient for rapid work, and the chance for large profit was lost.

But, as before hinted, the real compensation for the temporary sorrow of frosted and infrequent Roses and high-priced, diminutive bouquets, the spring, when it fairly came, knew no barriers, and was indeed a royal campaign. No one ever imagined so gorgeous and sudden arrays of Roses in any gardens, nor at any season, as California has known from the last week in April (which is practically our May-time equivalent). During the first week in May the Santa Barbara Rosarians exhibited over three hundred varieties of Roses in ardent perfection. In the last days of May a birds-eye view of the State would reveal a wave of bloom from San Diego to Del Norte: wild flowers on hillside and plain vying with Rose-acres, and with walls of Clematis and Wisteria.

In an Alameda county garden, type of many others, the same season revealed, among many others, the following plants, shrubs, and trees in fullest prime of bloom: Aquilegias, Aristolochias, Tropæolums, Petunias, Linums, Carnations, Dianthuses, Foxgloves, Larkspurs, Geraniums, Pansies, Anemones, Irises, Callas, California Lilies, (L. Humboldti and others, Japan Lilies in bud), Hybrid Clematises, Roses of all sorts, Teas and Perpetuals being most prominent, Spireas, Wisterias, Weigelias, Deutzias, Snowballs, Hydrangeas, Rhododendrons, and herbaceous Peonies.

Among trees the Oranges, the splendid Pawlonia Imperialis, Catalpas, Cercis Japonica, Abutilons, and double pink Thorn, are, perhaps, most conspicuous. If accounts were taken of the plants just beginning to bloom, or which have so recently passed through that stage, that a few flowers yet linger upon them, the preceding list would become a voluminous affair.

The excitement which pertains to gardening in California is quite sufficient in ordinary seasons, for in good soil one may grow nearly anything that the catalogues contain, and at almost any season; yet who shall quite in words express the delight of seeing the marvel and suddenness of floral events this year? There was, for instance, the great trellis of intertwining white and yellow Banksia Roses. One week, as we all noticed, the clustered buds were tightly folded in green. They were signless, dilatory, and provoking. The very next week, all over and through the wavelike mass of boughs, white and cream-tinted flecks of foam began to leap and glimmer in the earliest sunlight. The week after, full-blown blossoms seemed everywhere in lovely and luminous entanglements, in dazzling groups, and in long trailers of bloom, almost touching the earth.

The mountain gardens of California will eventually prove its greatest charm. Broken and irregular plateaus, watered from never-failing springs, protected by higher peaks, kept fertile by the constant flow from thence of fertilizing materials, and possessing broad outlooks over valleys and ocean, must ever offer horticultural advantages of unsurpassed character. Frostless nooks, well watered and timbered, where Tomato and Potato vines grow all winter, abound in the Coast Range, and often within a few hours of a market. Her soil and climate harmoniously unite to enable one to cultivate, if he chooses, the most desirable plants of every land. The Date Palm, Carob, and Pistachio can be fruited in the same enclosure with the Lemon, Japan Persimmon, Walnut, Chestnut, Apricot, Plum, Apple, Cherry, and similar species. The vineyard may contain the best of the American Grapes side by side with the best foreign varieties.

The range of garden shrubs and hard-wooded plants which thrive reasonably well in such a location is very great, embracing almost every species known to botanists. Of course study must be given to their requirements, some needing cool northern slopes, others preferring the southern or southeastern exposures.

Native plants of Chili, Mexico, Australia, Japan, the Himalayas, South Africa, and other regions, thrive much better in the California foothills than do some of our own Sierra species, but, with care and proper attention to their requirements, soil, and suitable position, these also may be made at home, even in the cooler valleys.

CHARLES H. SHINN.

Rural Life.

LIFE ON THE FARM.

As to its drudgery — whatever has been the case in the past, when there were stumps to be pulled and mortgages to be lifted from almost every field; when it was a long way to market, and the buyer paid for produce in "trade"; when almost all implements were laboriously hewn out at home or clumsily hammered out by the village blacksmith — there is, happily, less drudgery on the farm now, and less need of it every year. Taking the year through, the working hours of a man on a farm are no longer than those of the section hand on the railway or the artisan in the shop, who has his own garden to hoe before breakfast or after supper. The busy lawyer and the doctor in average practice work longer and harder than the farmer. The grocer and the editor and book-keeper each sees less of his children in their waking hours than the farmer who sometimes envies them their "easy life."

It must be conceded, of course, that the profits of farming are not so large on the average as those which are realized *by men who are successful* in mercantile or professional life. But, such as they are, they are *surer*—twenty-fold surer, at least. Large profits are always contingent on large risks. One must not expect the same rate of interest from government bonds as from mining stocks. The wear and tear, the losses and defeats of business men in the last ten years, have been an experience that no farmer need covet. He may well be satisfied with the small income that, taking one year with another, is such a sure one; to resign the five chances of shining success in commercial life to those who are willing to take the ninety-five chances of sure failure.

The cities and towns are full of men who once had visions of a business success that would in monthly profits put to shame the small profits of a farmer's lifetime. On the home-stretch of three-score and ten they find themselves dependent for a livelihood on salaried positions, which they hold by a dismally uncertain tenure, or on the precarious commissions of a canvasser or a commercial traveler. In comfort and in income, the lives they have led make a shabby showing compared with what they might have done as farmers, and point an important moral for the young men who are now debating whether they will turn their backs on the farm, and try their luck in the lottery of city life.— *Good Company.*

HOME LUXURIES.

"By promoting an intelligent attention to horticulture," says John J. Thomas, "the families of the country may be furnished with the pleasant home luxuries which well-managed fruit-gardens can give; and each one may gather around his home, even if owning only half an acre of ground, an amount of substantial comfort gained in no other way. N. P. Willis very correctly observed that, 'Nature lets the tree grow and the flower expand for man, without reference to his account at the bank.' Yet many fall into the error of thinking that a man must be really wealthy to enjoy a well-planted and well-kept home.

BOOKS AND PAMPHLETS RECEIVED.

Alfala. A Compilation of Facts concerning its History, Culture, and Value. By W. E. Pabor, Associate Editor of the "Colorado Farmer." A small pamphlet, giving condensed and practical directions for the successful culture of this valuable forage plant, which seems especially adapted to the sandy lands of the far West.

Premium List of the International Potato Exhibition, for the encouragement of the best means of Potato Culture, and the introduction and diffusion of improved varieties, to be held at the Crystal Palace, Sydenham, London, England, on Wednesday and Thursday, 20th and 21st September. The schedule is most elaborate and liberal. A special prize is offered for American Potatoes.

Premium List of the Michigan State Fair, to be held at Jackson, Mich., from September 18th to 22d. This is a combined exhibition of the State Agricultural Society with the State Horticultural Society. The premiums are liberal, and in the horticultural department especially, under the energetic management of Mr. J. J. Lyon, the President, and Mr. Charles W. Garfield, the Secretary, a grand display is expected.

Agricultural Review and Journal of the American Agricultural Association, for the second quarter of the current year, is received. Its most prominent article is a treatise on the Cattle Industry of the United States, by the Hon. J. B. Grinell, of Iowa—a comprehensive and valuable paper. The volume contains also articles on Cotton Culture and Seed, Delaware Peach Orchards, Soiling, Tree Planting, Breeding, and other subjects.

Farm Library, No. 6. The A1 Poultry Book. —Fowls and Eggs; How to make Poultry Pay on a large or small scale. As in the preceding numbers of this series, much useful information is given in few words. A good breed, good quarters, and good food are considered by the author the secret of success in keeping fowls at a profit. How to select and manage them are treated in separate chapters, viz.: Best Breeds for Eggs; Best Breeds for Market; Breeding for Eggs and Meat; Management for Egg and Meat Production; How and What to Feed; Management of Chickens; Summer and Winter Care of Poultry.

Transactions of the Massachusetts Horticultural Society for 1881.—Through the kindness of Mr. Robert Manning, the able Secretary, we are in receipt of these two volumes, which are, as usually, characterized by the great amount of useful information contained in them, and the care and precision with which they are gotten up. The President, the Hon. Francis B. Hayes, reviews in his address the affairs of the society, and gives valuable hints about the management of horticultural societies in general. Among the most valuable papers read before the society were Hardy Rose Culture, by W. H. Spooner; Tropical Fruits and Flowers, by John E. Russell; Fruits for Market Purposes, by E. W. Wood; Plum and Peach Culture; Ornamental Trees, Shrubs, and Plants; Vegetables and their Culture; Best Roses: Arboriculture, by Dr. J. A. Warder; Native Plants, by Mrs. I. L. Nelson; Ornamental Arboriculture, by Professor J. Robinson; Reports on Plants, Flowers, Fruits, Vegetables, Gardens; Edible Fungi, by Dr. E. L. Sturtevant; Dates of Flowering of Trees and Shrubs in Eastern Massachusetts, by Professor J. Robinson, and others, on interesting topics.

A Japanese Natural History, by *Ito Tokutaro*, University of Tokio, Japan, 2 volumes.—This is to all appearances a wonderful work. Although the illustrations, some Latin and French names, scientific definitions, and the general style of the work, are the only things intelligible to us, enough appears to excite our astonishment and admiration. That a people which have up to within a few years been considered little more than a semi-civilized nation, should already enter the field of scientific research and be able to publish a work like this, seems almost incredible. Several full-page illustrations of plants and fossils, some of them colored, are interspersed through the work. The execution of the plates is generally so accurate and excellent that improvement seems difficult. In a private letter—which, by the way, might serve as a model of precision and clearness of expression, and in which not a single orthographic error occurs—the author writes that "the work was published to congratulate his grandfather, *Ito Keiske*, on his eightieth birthday."

We extend to Mr. Itó Tokutaro our thanks, as well as our sincere wishes for his success, trusting that his labors may find appreciation in his own country to the full degree of their merits.

CATALOGUES RECEIVED.

Jesse Battey, *Manchester, N. J.*—Descriptive Price List of the Manchester Strawberry, originated by Mr. Battey.

Ellwanger & Barry, *Mount Hope Nurseries, Rochester, N. Y.*—Descripive Priced Catalogue of Strawberries, Blackberries, Raspberries, Gooseberries, Currants, etc., offered for sale summer and autumn. The cultural directions are especially practical and concise. Full-sized illustrations of Fay's Prolific Currants, Sharpless Strawberry, Downing Gooseberry, and Gregg Raspberry, accompany the catalogue.

G. H. & J. H. Hale, *Elm Fruit Farm and Nursery, South Glastonbury, Conn.*—Price List of Pot-grown and Layer Strawberry Plants for Summer and Fall. A good, reliable list of old varieties that have proved of value all over the country, and the most promising new ones. Manchester Strawberry and Souhegan Raspberry, specialties.

J. T. Lovett, *Monmouth Nursery, Little Silver, N. J.*—Summer and autumn pamphlet of Pot-grown and Layer Strawberry Plants, with instructions for their cultivation. The Manchester a specialty. The "Hansell Raspberry," which is considered the earliest market Raspberry, will be offered for sale in autumn.

A. I. Root, *Medina, O.*—Illustrated Catalogue and Price List of Implements for Bee Culture, with directions for their use.

ANSWERS TO CORRESPONDENTS.

Pansies Dying.—*J. M. G., Rochester, N. Y.*—The sudden death of your Pansies is probably caused by Red Spiders, the most formidable enemies of this plant. It is not practicable in our climate to keep Pansies over more than one flowering season. When a continuous bloom is desired, sowings have to be made at different seasons; for spring flowering in August, and for summer flowering in January.

Brussels Sprouts.—*Subscriber, Huron, O.*—This vegetable is similar in its general character to Cauliflower, and requires about the same treatment. The small, solid heads which form around the stem are used, prepared like Cabbage, but they are more delicate and tender. The seed should be sown in April or May, and the plants set out in July. They are moderately hardy and may be left out-doors till hard frost, when they should be taken up and placed in a cellar upright, and the roots covered with earth. By keeping the soil moist, the "sprouts" may be had during a considerable part of winter.

Castor-Oil Beans.—*A. N. S., Savannah, Ga.*—This plant is a rank feeder, and needs a deep, rich soil, similar to Corn land. The seed is generally soaked in hot water for twenty-four hours before planting. Hills are made about six feet apart each way, as for Melons. In these six or eight seeds are dropped and covered two inches. After the plants are well started, all but the best ones in each hill are removed. They have to be well cultivated, but not deep, throughout the season. As soon as the pods turn brown, they are harvested, as by leaving them until entirely ripe, many seeds would be lost. The ripening and drying is finished on a clean, dry floor large enough to save all the beans which scatter by the snapping of the shells.

Artichokes.—*C. S., Elmira, N. Y.*—It is unfortunate that two plants so different in their uses should have the same popular names. The only part of the French Artichoke, *Cynara scolymus*, that is used is the undeveloped flower-heads, while of the Jerusalem Artichoke, *Helianthus tuberosus*, it is the tubers. Neither is much used here as an article of food. The Jerusalem Artichoke is a valuable forage-plant, which may be grown almost anywhere, and yields a very large amount of nutritious food from a given area. The principal objection against its more general cultivation is that it is difficult to eradicate from ground it has once taken possession of.

MISCELLANEOUS.

Permanent Tree-Labels.—John J. Thomas recommends long, tapering metallic labels, with the name written plainly on the larger end, so that it would be visible at once, and the smaller end coiled around a limb of the tree. The name, written on corroded zinc, will last generally as long as the tree.

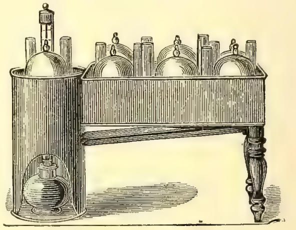
Poisoning Potato Sets.—A correspondent recommends to soak cut Potatoes in a solution of Paris green, and then strew them between the rows of planted Potatoes before the latter are up. The Potato beetles eat the poisoned Potatoes, and thus many are destroyed which would otherwise prey on the crop.

Prairie Hens for New Zealand.—Of twenty-eight Prairie Hens recently sent from Topeka, Kansas, to New Zealand, nine survived and arrived in good condition. They were liberated there, and, protected by the Acclimatization Society under the "Animals Act," are expected to soon become acclimated.

Seedling Pansies raised by *Mr. H. P. Closson*, of Vermont, from our Premium German Pansy Seed, arrived in good order and were of exquisite beauty. One especially, which Mr. C. considers superior to any of the named varieties, is remarkable for its rich crimson color shading into velvety deep amaranth purple.

Flowers for Methodist Ministers.—That plants should be classified according to the denominational wants of ministers never occurred to us until the propriety was lately suggested by the following quotation from the letter of a reverend gentleman: "The Gladiolus is a flower specially adapted to the wants of Methodist ministers." Easily moved, we suppose!

Farming by Proxy.—Responding to a toast on "The Clergy," Henry Ward Beecher said recently: "If there is anything that a man cannot make money at, who lives in the city, and does it through others, it is farming. I am just as sure of that as I am of my own existence. *I* have a farm, and it is one of the most productive farms in the country—in the crop of bills. I find there is a great deal of money made; but my men make it, and I pay it all."



Patent Seed-Tester.—This ingenious apparatus, the efficacy of which we had occasion to test lately, serves its purpose very satisfactorily. It is neat, compact, and so simple in its construction that it is not liable to get out of order, an important item in appliances of this kind. The illustration shows its general construction so well as to require but little explanation. The seeds to be tested are placed on pieces of cloth, which are kept moist by the capillary action of projecting pieces, the lower part of which is immersed in the water-box below, and covered with small glass globes. The water in the small tank is kept at a temperature of between ninety and one hundred degrees, which is easily regulated by means of the thermometer attached to the miniature boiler. With one of these machines the vitality of seeds can be tested in much shorter time than by the ordinary modes. Messrs. Thorburn & Titus, 158 Chambers street, New York, are the sole agents for the United States.

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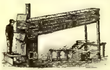
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The immense demand which has sprung up for this unexcelled new Strawberry, and the desire that the public should not be deceived by spurious plants, which I have good reasons to believe are offered under its name, have induced me to devote my propagating fields to the growing of this variety exclusively. I shall therefore be able to warrant every plant sent out by me to be true to name.

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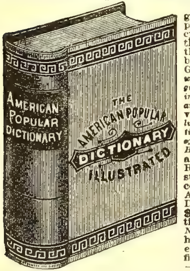

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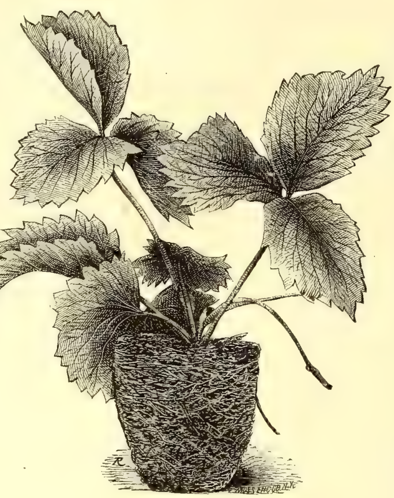

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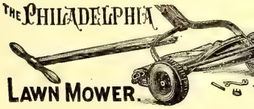

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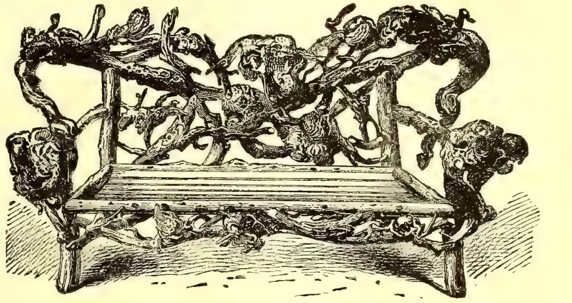

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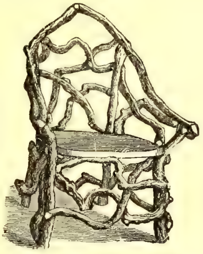

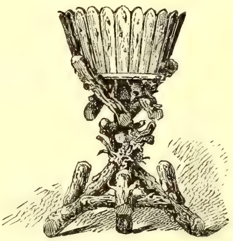

Arm Chair for Piazza. Chairs of various patterns, from $5.00 to $10.00.
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Lawn Vase, round, 16-inch tub; 3 feet high. Price, $8 00.
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Put up in barrels of 200 lbs. in bulk, $7.50 per bbl. Packages of 5 lbs., 30 cts.; 10 lbs., 50 cts.; 15 lbs., 75 cts. Cannot be sent by mail. Prices to the trade given upon application.

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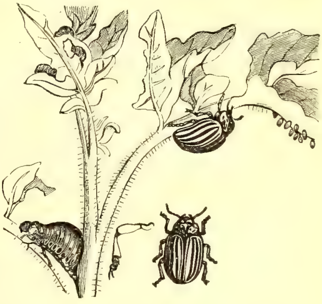

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Cyclamen Persicum giganteum (new). This superb variety is a new and greatly improved type, having very broad, beautifully mottled coriaceous leaves, and stout flower-stalks, throwing the flowers well above the foliage, each flower measuring from 2 to 2½ inches in length, with broad petals of great substance, pure white, with a fine bold violet-purple eye. Per pkt	.75
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Daisy, double white.—Constant and perfectly double, remarkable for its superb pure *white* flowers, per pkt	.25
Gloxinia, finest hybrid, selected from prize flowers of both the drooping and erect flowering varieties, per pkt	.50
Hollyhocks (very double), saved from an unrivaled collection of seventy-five English varieties; if sown now, will flower freely next year, per pkt	.25
Lobelia Paxtoniana, splendid for hanging baskets, extra quality, per pkt	.10
Mimulus, finest mixed, golden yellow and white ground, covered with crimson, rose, and scarlet blotches, per pkt	.25
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Pansy, new fancy, very beautiful; we unhesitatingly pronounce this the finest strain in cultivation; per pkt	.50
Polyanthus, finest mixed varieties from the collection of an English amateur, per pkt	.25
Primula sinensis fimbriata (Chinese Primrose fringed), various colors mixed, extra, per pkt	.50
Primula sinensis fimbriata (new fern-leaved varieties), very beautiful, per pkt	.50
Primula sinensis, new double varieties, rose and white, each, per pkt	1.00
Stock, scarlet and white intermediate London, extra, each, per pkt	.15
Stock, Brompton, superior for pot culture, scarlet, white, and purple, each, pkt	.15
Stock, new German ten weeks, extra fine, many colors mixed, pkt	.20
Stock, new white wallflower-leaved, a superb variety for pot-culture, pure white, with large double flowers, pkt	.20
Sweet Williams, auricula-flowered, a variety of great merit, far surpassing anything before offered, pkt	.25
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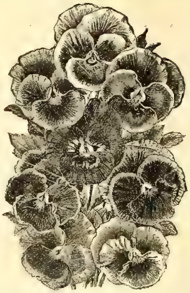
NEW GERMAN PANSIES.



The seed we offer is grown in Germany by one who has made this flower a specialty for many years. In size and beauty of the flowers, this strain is unapproachable. Dr. Thurber says, in the *American Agriculturist* for June:

BEAUTIFUL PANSIES.—No doubt that many who have seen the colored plate illustrating Pansies, and published by Messrs. B. K. Bliss & Sons, have supposed that the artist had exercised his imagination, both as to size and the strange combinations of colors. So far from this being the case, the flowers are, if anything, rather below the real size, and as to colors it would be impossible to conceive of any artificial colors more brilliant, or more strangely contrasted, than they are in flowers produced by this remarkable strain of seeds. Some of the blooms are as near black as it is possible for a flower to be, and of a velvety texture of great richness.

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The Pansies are in full bloom; the finest I have ever seen. I shall save every seed.

P. E. COPE.

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I never saw any Pansies like those I had from you. I beat them all at the fair, they were even better than those represented in your colored plate.

WM. ADAMS.

A first-class premium was awarded at the May exhibition of the N. Y. Horticultural Society.

August and September are the best months for sowing pansy seed for blooming next spring,

For general directions for the cultivation of the Pansy, see July and October Nos., 1880, of the AMERICAN GARDEN.

Price, 50 cents per packet of 50 seeds.

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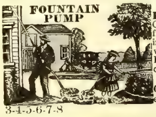

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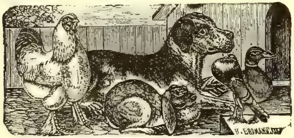
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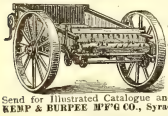

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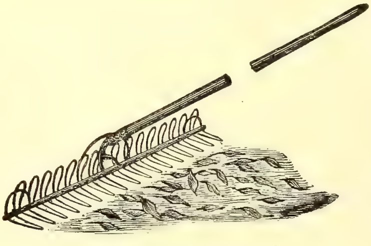

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It requires many years of great care to produce a fine Lawn, which may be injured, and perhaps ruined, in a short time by using common rakes. Price, $1.00.

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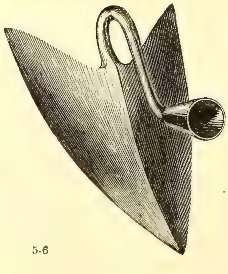

5-6

It is perfectly adapted for Field, Nursery, or Garden. Is *superior* to any other hoe at all work for which a hoe is intended, such as Pulverizing, Planting, Hilling, Weeding, Scraping, Chopping out, etc. They are made of *Solid Cast Steel, with Trowel temper*, and warranted not to break with fair usage. No farmer or gardener can afford to do without them, and spend their time and strength on the old hoe. You may not like the looks of them at first, they being so different from the hoe we have been using for thirty years; but use it until you become accustomed to it, and twice its cost will not get you to do without.

It has two sharp edges on either side, extending to the point, making a cutting surface of 16 to 18 inches.

Has a *draw cut* on the principle of a scythe, or as you would hold your knife or any cutting tool, and cuts to the *best* advantage.

Will scour in *any soil*, because it has curves like the mold-board of a steel plow.

Cannot well break, as central ridge is great support.

Prices, No. 1, Ladies' and Garden Hoe, $1.00 each; No. 2, Garden and Field Hoe, $1.25 each; No. 3, Field Hoe, $1.25 each.

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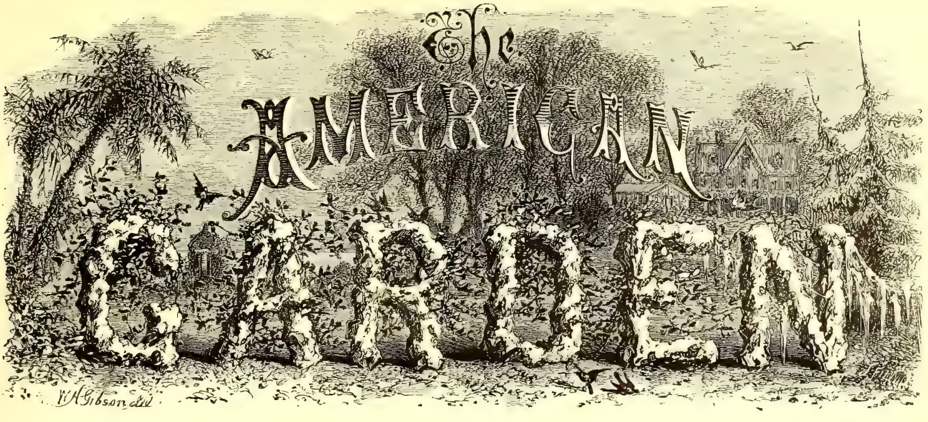

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The American Garden.

A MONTHLY ILLUSTRATED JOURNAL.

Devoted to the Gardening Interests of America.

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Many of our subscribers will receive a *sample copy* in addition to their regular paper. Please do not throw it away, but hand it to some one interested in gardening, and, if you can do so conscientiously, ask him to become a subscriber. We take this means of bringing THE AMERICAN GARDEN to more extensive notice, knowing that a favorable word from our readers, who can speak from experience, has more weight with their friends than all we could say.

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KIND WORDS.

I consider THE AMERICAN GARDEN, without exception, the best paper devoted to general horticulture that is published in this country.—*C. L. Allen, Garden City, N. Y.*

THE AMERICAN GARDEN is admired by all who see it. It is a gem, and treasure for all lovers of flowers and fruits. I would not do without it for five times the amount charged for it.—*H. Caldwell, P. M., Staunton, Ill.*

I read the columns of THE AMERICAN GARDEN each month with increased interest, and I beg to congratulate you upon the valuable impetus you are giving to the growing taste for horticulture. —*Dr. David Green, Sec'y Sheffield County (Canada) Fruit Growers' Association.*

I read THE AMERICAN GARDEN with a great deal of interest and profit. The articles are very valuable to every person of taste, intelligence and culture, and are not found in any other publication. It is the neatest and most compact paper of the kind I have ever seen.—*J. W. Knodle, Dickeyville, Kansas.*

THE AMERICAN GARDEN is undoubtedly the best horticultural paper in the land. It is neat and handsomely gotten up, and full of practical and reliable information about everything pertaining to gardening. No one who cultivates a garden can afford to be without it.—*Pres. Henry E. Pellew, before the Bedford Farmers' Club.*

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The Vegetable Garden.

SEASONABLE HINTS.

All vegetables intended for raising or wintering in cold frames should be sown during this month.

Cabbage and Cauliflower for early spring planting should be sown in a rich, mellow seed-bed, taking care that the young plants are thinned out sufficiently not to become spindling, else they will be of little or no value for wintering. They should be kept growing vigorously by keeping the ground clean and giving water when needed, until November, when the plants will be large enough for transplanting to a cold frame.

Lettuce may be treated in the same manner; and, if a part of the seed is sown early and properly cared for in the frame, solid heads may be had all winter.

Pinching-in Melons and Squashes increases fruitfulness and induces earliness. During late summer especially, considerable benefit may be derived from shortening the longest branches, thereby directing the vital power of the plants to the ripening of the fruits already set, instead of to the production of new ones which would be nipped by early frost before they could reach maturity.

Turnips have suffered severely throughout the Eastern and Middle States, over a large section of which rain has not fallen since the sowing of the seed. Where the first sowings failed, Turnips may still be sown during the first week in September, and on good, mellow ground, under favorable conditions, will produce a large crop of the best quality, if not of the largest size.

Corn Salad, or Fetticus, though little known outside of the markets of our large cities, is very desirable for a winter and early spring salad. The seed should be sown early in September, in shallow drills, covered half an inch and packed firmly. Its cultivation is quite similar to that of Spinach, with the exception that, as the plants are smaller, they need not be thinned out as severely. It is used as a salad by itself, or as a dressing with other salads.

Celery for early use may be hilled up lightly at the beginning of the month, to be followed by higher banking up in ten days or two weeks. Such early "handled" Celery will not keep through winter, however; only as much as is wanted during the next month should be treated in this way.

Egg Plants, if taken off before being touched by frost, may be preserved for several weeks on a barn-floor or under a shed, where they can be kept dry and sheltered from frost. When severe cold sets in, the soundest specimens should be placed on shelves in a dry, cool cellar. We have kept them in this way till Christmas.

Digging Potatoes.—Where large quantities of Potatoes are raised, harvesting may be considerably facilitated by using boxes, instead of baskets and barrels, for picking and carting them in. Boxes made of slats of some light wood, the corners bound with strap-iron, and of a size to hold just one bushel, are easily handled, and are more durable than barrels. Small lots of Potatoes may be stored in them all winter and keep well, and by placing them on the top of each other occupy but little room.

GREEN PEAS.

In times gone by, a dish of Green Peas on the Fourth of July was considered an achievement in gardening, at least in the three northern New England States. In the current season, so abnormally late and cold, it *was* a triumph, and one not very common. But in ordinary seasons we have them, even in the extreme north, within sight of Canada, on the 17th of June, with great regularity. The old *Dan O'Rourke*, strong and productive, was our dependence when the Fourth was the objective point. Subsequently, the *Philadelphia Extra Early* made a gain over Dan of about ten days. Then came *Carter's First Crop*, a weak-growing Pea, on light soils, but good for at least five days earlier, and much better in quality.

Ten years ago the writer produced, by crossing *Carter* with *Dan*, a Pea as vigorous as Dan, with the plump pods of Carter, and never failing, until the exceptionally backward spring, to produce Peas for market picking, liberally, by the 17th of June. Many of the readers of the AMERICAN GARDEN have tried this Pea the present season, under the name of "American Racer." While they probably have not realized its actual earliness, on account of the season, at least in many places, I think they will agree with me that in table quality it is in advance of all the other yellow Peas.

But it must be acknowledged that the interest of amateur gardeners in all long-vined Peas has greatly abated since the advent of the much more convenient and cheaply grown dwarfs. The old *Tom Thumb* was a poor thing, and no further success seems to have been reached, if attempted, in that way, with yellow Peas. But among the green wrinkled sorts the gain in dwarfing and earliness has been immense. The tedious waiting for the maturing of the old *Champion of England* and its congeners is all done away with. Delay and mildew, together, wearied and disappointed growers of these large and late sorts, and the cost and trouble of bushing them was a strong additional impediment to their culture. But suddenly burst upon us, some dozen years ago, the triumph of the Englishman, McLean, in his Little Gem and Advancer. The latter has not become very popular in America, namely, I think, on account of its imperfect fertilization; for, though the flowers seem perfect, the pods are rarely well filled. But the Little Gem is grown everywhere, and everywhere approved as to quality and productiveness. In my opinion, it is the most productive wrinkled Pea, on light soils, of any sort now grown, and the most profitable to grow for market or seed. Since its cultivation in America it has varied greatly, and seed from different parts of the country produce very different Peas. Some growers have improved them, and some have deteriorated them greatly. By successive plantings a continuous supply can be kept up through the season with the Little Gem, more successfully than with any other Pea. I prefer this to planting the second early and later varieties of this class of Peas.

But, perhaps, the greatest of all triumphs in the production of new Peas has been *Bliss's American Wonder*, which has given us the great achievement,—a really extra early Pea of the green wrinkled class. For family use this variety will go far toward wiping from the list all yellow varieties. With me, the American Wonder is not more than four or five days later than the American Racer, and fully as early as any other sort whatever. Under favorable circumstances, in a strong soil, not too dry, and in not too hot a season, the Wonder is almost as productive as the Little Gem, while almost two weeks earlier. In converse circumstances it is not always satisfactory, the dwarfness being extreme and the pods not well filled. But this is nothing against the Pea itself, which is unique, and indispensable to the amateur cultivator. Those who understand the principles upon which dwarfing is produced know that the best results can only be had with dwarfs by careful and intelligent culture, in suitable soils and proper locations.

A word about culture, to close with. Peas need a soil in perfectly good heart, but not too rich in nitrogen. For an early crop they should be got in as soon as the land can be properly prepared. If the ground has been plowed late in the fall, spring plowing is not necessary for Early Peas. Peas for an early crop should not be planted more than two or three inches deep, and a plot inclining a little to the south should be selected. The ground should be well cultivated, and kept clean, *in* the rows as well as between them. The distance between rows should be graduated to the height of the variety. The lower-growing of the vining sorts, planted two and a half feet asunder, may be easily thrown together and made to support themselves without bushing. This throwing two rows together, at the time they begin to fall over, leaves a path between each pair of rows. For later crops deeper planting (to six inches) and a cooler exposure are desirable. *Don't plant buggy seed*, if you can get any other.

DR. T. H. HOSKINS.

THE GREEN-CORN WORM.

(Heliothus armigera.)

Great damage is done to the Sweet-Corn crop in some localities by the Corn worm. The parent of the "worm" is a moth of a clayey yellowish color, with olive and brownish markings. It is the same insect that has done so much damage to the Cotton crop in the Southern States, where it is known as the Boll-Worm. The caterpillar is generally of a pale green color, marked with black longitudinal lines, with several scattered, dark spots from which hairs arise. When full grown, the "worm" is about an inch and a half in length. It does not seem to be at all particular as to its diet, eating with voracity Tomatoes and even young Pumpkins, but it does its most destructive work in the Cotton and the Corn fields.

The female moth deposits her eggs upon the Corn-silk and the young caterpillars soon work their way down under the husks to the tender, sweet kernels and there riot in fine living. In some fields nearly every ear of Corn will be infested with from one to three "worms," and upon stripping down the husks, one or more rows of Corn, as shells, mark the path of the destroyer. Sometimes the husks are perforated on the side, whether for ventilation or entrance or exit is not well known.

When the caterpillar has attained its full size it descends into the earth and spins a silken cocoon. In about three weeks the moth or perfect insect comes out. It is generally thought by entomologists that the insect passes the winter in the moth state, probably finding a hiding-place and shelter among rubbish, etc.

From the habits of this pest it can be seen that any remedy used must be directed toward the destruction of the mature insect or moth. Nothing can be put on the ear of Corn,—that will kill the "worm,"—that would not endanger the Corn for table use. In fact, the presence of a "worm" is not known until so much mischief is done as to render the ear worthless.

The moths can be destroyed by means of lamps or lanterns placed where the insects can beat their own destruction, or arranged over dishes of oil or water into which they may fall and be drowned. A "light-trap" may be constructed as follows: An ordinary lamp is fastened in the center of a shallow pan by three clamps, so that the wind will not blow it over. A tin "shade" or reflector is provided, with a circular piece raised above the chimney-hole in the "shade" to go over the chimney, resembling a ventilator; this keeps the rain from falling into the chimney. The reflector stands in the way of the upward flight of the insects, causing them to fall back into the dish below, which should contain an inch of water, with a thin film of kerosene on top. The reflection of the light from the surface of the oil will attract many insects directly into the liquid. Another form of trap is a lamp, without a chimney, set in a pan. A reflector, similar in form to the one just described, with a "ventilator," is held above the lamp by means of iron strips fastened to the "shade" and the sides of the pan.

Such a "lamp-trap" will catch various kinds of night-flyers, and while many are injurious ones, others may be beneficial. It is therefore something of a problem how far a general insect destroyer should be used.

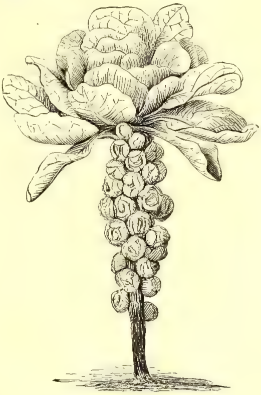
Dr. Byron D. Halsted.

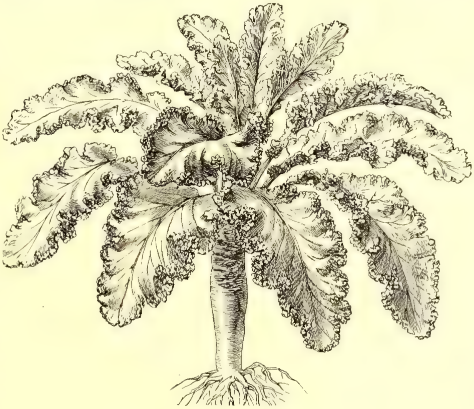
SPINACH.

To obtain a profitable as well as a satisfactory crop of either summer or winter Spinach, it is absolutely necessary to give considerable attention to the proper preparation of the soil; for although Spinach is a vegetable that requires but little skill for its cultivation, yet large, thick, and succulent leaves, such as should be obtained by all who possess a garden, cannot be produced without the exercise of some care in the proper preparation of the soil. For the late fall and winter crop, a well drained and sheltered situation should be chosen, and if possible a light sandy soil. This latter, however, is not of material importance, provided the situation be sheltered and the soil well drained.

In order to produce thick, succulent leaves, a rich and deep soil is essential. This can be obtained by either digging or plowing the ground as deeply as possible, and at the same time working in an abundance of well-rotted stable manure. With either the rake or harrow, level the ground as neatly as possible. The seeds should be sown in drills, from one and a half to two and a half feet apart. The sowing is best done just before a rain, if possible, but unless the ground is absolutely dry, a quick germination of the seed can be obtained by proper firming of the soil. This firming may be readily accomplished by pressing down with the feet every inch of soil in the drill.

As soon as the plants become strong enough to handle, they require to be well thinned, so that they stand about three inches apart. In about two weeks every other plant should be removed, so as to leave the plants six inches apart in the row. The ground should be well worked with the hoe, and thus kept free from weeds at all times. When cold weather sets in, a slight covering of straw or salt hay should be given. This covering should be removed about the 1st of April, a sprinkling of guano applied, and a good hoeing given.


BRUSSELS SPROUTS.


DWARF PURPLE KALE.

For fall use, Spinach should be sown about the 10th of August, and for the winter and early spring crop, from the 1st to the 10th of September. For the late spring and early summer crop, the seed should be sown as early in spring as possible, and if Spinach is desired throughout the summer it should be sown every two weeks, in order to maintain a succession, but as the summer sowings soon run to seed, severe thinning is not necessary: the plants may be permitted to stand three inches apart.

Of late, considerable attention has been given to the improvement of Spinach, resulting in the introduction of several improved varieties. For fall sowing, however, the *Prickly Seeded* is mostly employed. It has triangular, arrow-shaped leaves, and is considered the hardiest variety; but the *Savoy Leaved* is far superior in every respect, and is the best for amateurs. With me it has proved to be as hardy as the prickly seeded.

For spring and summer sowings the round seeded varieties are to be preferred. *Round-Leaved*, with thick, fleshy leaves, and the *Extra Large Round-Leaved Viroflay*, with its broad, round, thick, and dark green leaves, are the two most desirable varieties. I tested six varieties of Spinach this spring, and the last-named remained in condition for use longer than any other kind, and was the last to run to seed.

Charles E. Parnell.

BRUSSELS SPROUTS.

This delicious vegetable, which may be found in our city markets all winter, is not in as general use as it deserves. It belongs to the Cabbage tribe, and is distinguished from its other members by, instead of forming one central head, throwing up a stem two to three feet high, around which grow close together a large number of bud-like heads. These diminutive heads—called Rose-Cabbage by the Germans—are used and prepared similar to other Cabbage, but they are far more tender and delicate than the best of Savoys even.

Its cultivation is simple, differing but little from that of late Cabbage or Cauliflower. The plant is nearly hardy, and will not be injured by light frosts.

BORECOLE.

Kale, or Borecole, is another winter vegetable of the Cabbage family, which is so hardy that it may be left out all winter without injury; in fact, it should be exposed to severe frost before it becomes fit for use.

The variety known near New York as *Sprouts*, or *Dwarf Greens*, is sown thinly in September in drills twelve to fifteen inches apart. The soil must be rich, deep, and light, and entirely free from stagnant water, else the plants will not winter well. When the plants are two inches high, they are thinned out to about six inches, hoed, and kept cleanly cultivated until the leaves, which afterward cover the entire surface, interfere. A light covering during the severest part of winter is beneficial. The Sprouts are fit for use in early spring, and take the place of Spinach when the latter is scarce.

Curled Scotch and *Dwarf Purple* are sown in open ground in May, transplanted in July, and treated in the same manner as late Cabbage. They do not need winter protection.

The Fruit Garden.

SEASONABLE HINTS.

Strawberries.—Spring set plants as well as older beds need sufficient cultivation to keep all weeds subdued and the ground light and mellow; care must be taken, however, not to hoe very deep immediately around the stools. Where hill culture is practised all runners should be scrupulously removed.

With the more general introduction of pot-grown plants, old Strawberry beds are less frequently preserved, and, except with a few special varieties, it is easier, cheaper, and every way preferable to make new beds now, than to spend time and labor in the attempt to nurse old run-out plantations.

In the hands of any one at all skilled in gardening manipulations, failure with potted plants is next to impossible, yet there are persons who do not succeed even with potted plants, nor with anything else. We have before our mind a case where several hundred beautiful potted plants were set out under a burning sun, in a freshly turned sod, as dry as an ash-heap, not a drop of rain having fallen for several weeks previous nor afterward. Holes were dug with a hoe, the plants thrown in and the balls, or what was left of them, covered with considerably less care than Potatoes should receive. Neither shade nor water was given, and naturally all the plants burned,—as completely as if they had been put in a roasting-pan in the baking oven,—to the disgust of the owner, who henceforth declared potted plants a swindle.

To be successful with potted plants, especially when planted during a drought, the ground must be in the best possible condition; it must be well enriched, deeply dug and thoroughly mellowed and pulverized. The beds or rows are marked out as for layer plants. If the plants have been packed several days and are, on their arrival, found so dry that the soil crumbles from the roots, water should be poured over them an hour or two before planting. Holes a little larger than the balls are then made with a hoe or trowel, and in these the plants, after the paper into which each is wrapped has been removed, are placed so that the upper side of the ball stands in a line with the surface of the ground; fine soil is then drawn around the ball, firmly pressed against it, and the surface leveled.

Sometimes, when plants have been potted a long time, they become pot-bound, that is, they have formed a dense netted mass of roots around the ball. In this case the ball should be broken before planting.

In dry weather the plants should be well watered: not only sprinkled a little, but thoroughly soaked, so as to wet the entire ground to a depth of six inches. Unless the drought is very severe, this is generally all the watering needed, but the plants should be lightly shaded for a few days during the hottest part of the day.

The principal objection against potted plants is the higher price of the plants themselves, and the additional charge for expressage. But when the percentage of loss with layer plants is compared with the almost certainty of potted plants, the difference in the actual cost is but trifling.

PROPAGATION BY CUTTINGS.

It is not many years since the art of propagation was clothed in considerable mystery and the knowledge of its methods were carefully guarded as trade secrets.

The progressive spirit of the age has here, as in other branches of applied natural science, changed darkness and ignorance to light and knowledge. Nurserymen find it now to their advantage to spread information instead of holding it secret. Mr. J. Jenkins, of Winona, O., whose large experience in propagating plants entitles his views to special consideration, has lately given an interesting address before the Nurserymen's Association, from which we extract the following:

Most varieties of Grape-vines, Currants, Gooseberries, Roses, and much of the shrubbery supplied by nurserymen, grow readily, and are grown from out-door cuttings. Whether of trees or vines, in-door or out-door propagation, the operation of nature in the growth of the cutting is the same. The bud holds within its brown envelope the principle of life, which extends through the cells that have carried the circulation, extended the growth, and established the bud. After the cutting is divided, nature's first effort is to form a callus with the descending cells that would have gone to extend and enlarge the roots on the mother vine.

Now if instead of abruptly dividing the cane or shoot to be used as a cutting, a system of ringing or strangulation be followed, every bud may be made to produce a plant, with scarcely an exception. This strangulation or ringing is performed on soft or green wood by simply tying thread tightly around the point where the slip or cutting is to be separated, and on hard wood by a ring of copper or other wire drawn closely. This will cause an enlargement and a deposition of cambium at the point of arrest and make the growth of the cuttings thus prepared, when finally separated and planted, almost as certain as though they already had roots.

One very successful experiment with out-door cuttings of the Grape was performed by allowing the canes to remain on the mother vines until the buds had started a growth of one-half inch or more and the leaves had begun to unfold; every eye was separated, the old wood placed entirely below the soil, the new growth just appearing above the ground, shaded carefully, with a result of full eighty per cent. of vine.

In the usual manner of preparing cuttings greater success follows when the cuttings are taken off immediately on the fall of the leaf before freezing, when they should immediately be packed away in moss or soil until time for planting in spring.

Cuttings of Currants and Gooseberries taken in August and September may be immediately planted, covered with a heavy mulch of straw to carry them through the winter.

Grape cuttings for out-door planting may be made with single eyes, but all the advantages of a two-bud cutting may be retained by simply cutting across the node with a sharp knife or with shears, commencing the cut opposite and one-eighth of an inch or more below the bud and finishing one-eighth of an inch or more above. We find a new and very profitable use for vines thus grown in propagating Delaware, Cynthiana, Norton's Virginia, and other hard-wooded vines by grafting. Roots are thrown out from these long single eye-buds through the cut surface below, while another tier of roots starts immediately below the bud. Above this upper tier of roots the vine is separated and planted on good ground, where it will make a strong two-year old the following season. The lower tier of roots with the piece of stump of the cutting is used as a stock and grafted with any of the varieties difficult to propagate. There is no fear of mixture or mistake from the growth of the stock, as it contains no buds, and as no sprouts start from the stock it the more readily and certainly unites with the scion.

A CLEAN FERTILIZER FOR STRAWBERRIES.

The accumulations of horse stables and cow stables are usually full of the seeds of several kinds of grass; and many times there will be present a sufficient number of the seeds of noxious weeds to cover the entire ground with young plants, after the seeds have germinated. Composting coarse manure for one or two years will not destroy half the seeds among the manure, unless the compost pile is allowed to generate a degree of heat so high that the value of the manure will be greatly injured.

To avoid the annoyance incident to weeds and grass, my own practice has been, during many years past, to fertilize the ground when Strawberry vines are growing, by the application of oil meal and wood ashes spread about the plants and worked into the soil. The growing vines will find all the essential elements of fertility in these substances, both for making strong and vigorous plants and for developing large and beautiful berries. These substances can be applied at any season of the year; and one may distribute a generous sprinkling about every plant without fear of producing weeds or grass, or injuring the growth of the crop by too much manure. Still the better time to apply such fertilizers is late in autumn, so that all the elements of fertility in the coarse materials may be rendered available before the next growing season.

S. E. T.

MOLES.

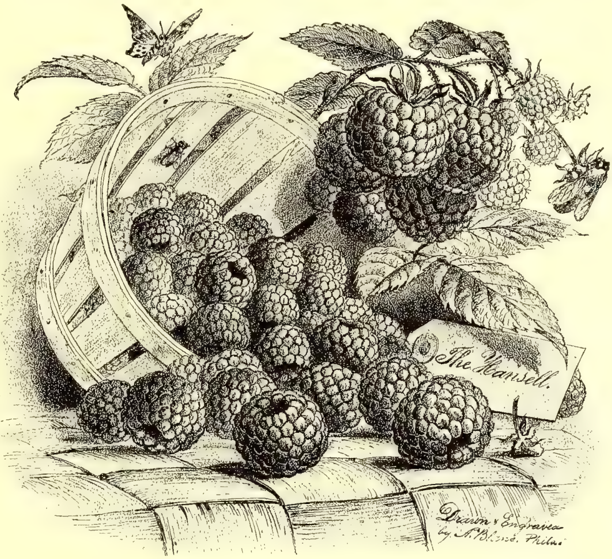
Moles are by common consent considered a nuisance and pest in the Strawberry field, and various devices are constructed for their destruction. Yet, although moles destroy a few plants by undermining their roots, it is more than probable that they are but blessings in disguise, and that we would lose more plants from the ravages of the white-grubs than from the underground work of the moles, if we should succeed in killing the latter. That moles do not eat Strawberry plants, but grubs, admits of no doubt, and it is also observed that moles are mostly found in places where grubs are most numerous. We have frequently followed the mole tracks under rows of dead plants and have always found on their roots the peculiar marks of the gnawing of the grubs, proving that the latter were already engaged in their destructive work, and were only arrested in their mischievous progress by the timely arrival of the mole, who after having found his prey, would not follow the same row on a fool's errand, but would make a short cut to the next row, where his keen scent indicated another choice morsel.

THE HANSELL RASPBERRY.

What a kind old lady is Dame Nature, yet how exacting and how arbitrary! She can be coaxed to do wonders, but cannot be driven the slightest degree. By the judicious use of fertilizers and proper cultivation she can be often led to perform feats that would astonish Jove; yet, without fertilizers or without cultivation, she might utterly refuse to perform at all. In the production of new varieties of fruits, however, it would seem that she can hardly be either coaxed or driven—reserving the awarding of such prizes to her own free will. This is certainly the case in the field of *Small* Fruits.

In evidence of this statement I refer to the efforts of Mead, Parry, Huntsman, Samuel Miller, and others, extending over years upon years, to produce superior varieties of berries from seeds of crosses and choice specimens, to say nothing of Durand, who has produced thousands and tens of thousands of seedlings, many of which have been introduced, and of the whole there are but few to which he can point with pride. On the other hand nearly every popular variety of the day is a chance seedling that has appeared in some unlooked for place. Thus it is with the Sharpless and Manchester Strawberries, the Cuthbert and Gregg Raspberries, the Kittatinny and Snyder Blackberries; and thus it is with the subject of our sketch—the Hansell.

Whether it is that unknown and unheard-of millions of seedlings are constantly coming into existence in various parts of our land, and those that are brought forward and introduced possess such merit that, in their neglect, they persist in being worthy, until recognized and transferred to better surroundings, and thus prove "the survival of the fittest," as advocated by Darwin, I would not undertake to say. I merely present the facts as they exist.


The Hansell.
Drawn & Engraved by A. Blanc, Phila.

THE HANSELL RASPBERRY.

The history of the Hansell is not without interest. Some eight years ago, it was noticed growing among weeds and Grass, by the side of a barn in Burlington County, New Jersey, a spot so unfavorable for a Raspberry, that only a variety of great inherent vigor could live there. Here it remained for two years, where, in the meantime, it was eaten down by a cow tied near by. By rare good fortune (for it was purely by chance) it escaped being dug up in clearing the ground of Elders and other "trash." After a time, a branch attained sufficient age to bear fruit. These first few berries, in their half-buried-alive position, were so fine as to attract the attention of the owner of the property—the late J. S. Hansell, a practical and eminently successful fruit grower. On being transferred to the field, it proved so signally fine and profitable, that Mr. H. set about increasing and planting it, as rapidly as practicable, until at the time of his death (in 1881) he had ten acres of it growing, while his successors continue to plant more. The name, which is synonymous with justice in the region where he formerly lived, is given the seedling, as peculiarly appropriate, to commemorate the name of a good and estimable gentleman well worthy of emulation.

The variety itself, under ordinary culture, may be described as follows: Canes, very hardy, of vigorous growth, and productive. Color of berry, brightest crimson. Texture, very firm. Size, medium to large. Quality, best—unsurpassed. Season, extra early, ripening in advance of all other Raspberries, whether black, red, yellow, or purple. It will thus be seen, that while it is unsurpassed in other respects, its chief value lies in its extreme earliness.

However, the Hansell may have its faults,—else it would be the first fruit ever found without them—but I can truthfully state that they remain yet to be developed. I am aware that, as it is but natural for a lover to be blind to the faults of his sweetheart, or for a mother not to detect the short-comings of her child, so may the originator of a new fruit overlook the defects of his favorite, or try to explain them away. Nevertheless the public demands too much. It expects to find a fruit that shall be perfect in every respect, and, consequently, the originator,—arguing, that if he is to deal with the public, he must please the public—claims unqualified perfection for his seedling. As an illustration of this perplexing situation, I refer to the German Florist who said: "I am so droubled mit de lady vot comes to puy my Rose. She wants de Rose as is fragrant, as is hardy, as is ever-blooming, as is white; all in one Rose. I haves many times tried to vind such for her, but I vinds him much not."

With a Raspberry so firm and so early as the Hansell, it is scarcely reasonable to expect the size of the Cuthbert and Franconia; yet the size is surprising, considering its many other excellences. In conclusion, I cannot refrain from repeating what a noted horticulturist said of the Hansell: "In judging it as one would an animal, I think there is no other Raspberry that will score so many points."

J. T. LOVETT.

MARKETING GRAPES.

The styles of packages for shipping Grapes vary more than with any other fruits, from twenty-pound returnable boxes to small boxes packed in skeleton cases of all sizes and shapes. The three-pound box, once so popular, is superseded by a ten-pound basket, particularly by the growers in the vicinity of New York, who use small baskets and boxes packed in berry crates. Of course the crates are returned to the growers, while the baskets are weighed and sold with the fruit.

One of the most important considerations in packing Grapes is to be careful not to disturb the bloom which adds materially to the fresh appearance and the market value of the fruit.

The principal variety grown in the Hudson River region is the Concord, which here develops a perfection hardly equaled elsewhere. Western N. Y. raises large quantities of Delaware and Catawba, while N. J. growers confine themselves mainly to Concord.

I desire to call the attention of growers to the peculiar evaporation which takes place in the Concord after picking, in consequence of which, complaints of purchasers about short weight are not rare. Several experiments have been made to demonstrate this peculiarity; yet I trust that other growers will be induced to test this more accurately this season, and report the results in the AMERICAN GARDEN, for the good of all.

Mr. Rogers states that Grapes picked on a warm, dry day, will, when placed in water, gain twelve per cent. in weight. Grapes cut immediately after a rain or heavy dew, then packed in boxes and kept in a dry room, will lose from five to ten per cent. And again, Grapes cut on a clear day, after a night without rain or dew, packed tightly and placed in a damp cellar, will increase ten per cent in weight. Consequently, in packing, due allowance should be made for shrinkage.

C. W. IDELL.

The Flower Garden.

SUNFLOWERS.

They blossom brightly, straight and tall,
Against the mossy garden wall,
Beneath the poplar trees;
The sunbeams kiss each golden face,
Their green leaves wave with airy grace
In fresh September's breeze.

On one fair disc of gold and brown
A purple butterfly lights down;
A sister blossom yields
Her honey store, content to be
A late provider for the bee,
Flown here from clover fields.

Each dawning day, when climbs the sun,
And steadfast, till his course is run,
These royal blossoms raise
Their grand, wide-opened, golden eyes,
To watch his journey through the skies,
Undaunted by his blaze.

The butterfly may sleep or soar,
The bees may steal their honey store,
But still the flowers gaze on,
With burning looks of changeless love,
Toward the day-God, high above,
Until the day is gone.

Fair maid beside the garden wall,
Thy lithe form copies, straight and tall,
The Sunflower's stately grace;
The golden tresses of thy hair,
Like Sunflower rays, do weave a fair
Bright halo round thy face;

And through their shadows, looking down,
We find thine eyes of softest brown,
Like Sunflower centers are;
We watch thee standing in the bloom,
The God-given Sunflower of our home,
Yet meek as evening's star!

Ah, watching thus, high thoughts arise,
Deep thoughts, that fill our time-worn eyes
With fearful, hopeful tears.
God give thee sunshine on thy way!
God crown thy happy summer day
With peaceful autumn years!

In due time, coming on thy breast
Love's purple butterfly may rest,
And nestle close to thee;
And ere thy summer time is o'er,
Thy sweetness may yield honey store
For life's brown working bee.

But evermore, though love should come
And fold his pinions in thine home,
Lift thy calm gaze above;
Mark thou the Sunflower's constant eye,
And follow through life's changing sky
The sun of faith and love.

Ladies' Treasury.

SEASONABLE HINTS.

A good Flower-Garden should now be in its greatest glory, combining with the brilliancy and fragrance of its flowers the fullest richness and profusion of foliage. Cooler days and damper atmosphere produce an enjoyable contrast with the torrid days of the preceding months, causing a state of sweet repose during which we are apt to forget to make preparations for the future. Yet there is much important work to be done now.

Seeds of Perennials and *Biennials*, if sown now will flower next summer, while if sowing is deferred till spring, they will not bloom before another year. Hollyhocks, Chinese Pinks, Sweet William, Aquilegias, Delphiniums, Campanulas, and many other hardy kinds may be sown in beds out of doors. A somewhat sheltered position, facing to the south, and where water cannot stand at any time, should be chosen. After making the soil rich, light, and deep, the seeds are sown in narrow drills, and require no care until winter, except an occasional watering if the season should be very dry. When cold weather sets in the bed should be lightly covered with leaves and evergreen branches. Early in spring the covering is to be removed and the plants are transplanted to the beds where they are intended to bloom. Many of the hardy Annuals may be treated in the same way, producing much earlier bloom than could be obtained otherwise.

SCARLET CLEMATIS.

(*Clematis coccinea.*)

This magnificent climber, an excellent colored plate of which is presented to our subscribers with this number, is acknowledged as one of the most brilliant gems of the Clematis genus. The plant is a native of our South-western States, and has caused considerable controversy among botanists, who have in turn named it C. Pitcheri, C. Viorna var. coccinea, C. Texensis, and C. coccinea, under which latter name it is now generally recognized.

The plant is perfectly hardy in this latitude. Being herbaceous, it dies down every winter, and in spring throws up eight to twelve vines to a height of eight to ten feet. Early in July, and continuing till frost appears, its one to one and one-half inch long, bell-shaped flowers, of the most intense coral scarlet, shine as if polished. They are produced from the axil of each leaf, on strong, wiry peduncles, three to four inches long, standing out boldly from the foliage. The leaves are of a rich, deep, glossy green, deeply lobed, and of firm texture. The foliage and entire habit of the plant is elegant, bright, and attractive,—indeed, even without flowers it would be a valuable addition to a garden. Its cultivation is of the easiest kind, as it thrives in any moderately rich soil, and in any situation where it gets the benefit of a few hours of sunshine a day. Another great point in its favor is that it is not subject to insect depredations, which prove so disastrous to many other climbers. From all that we have seen and heard of this novelty, we consider it a most valuable acquisition, and we have therefore placed it on our Premium List for the coming year.

PANSIES.

One of our most beautiful flowers is the Pansy. It well deserves its popularity. It ought to be in every garden. If I could have but one flower, I think I would make this my choice for the border. Most flowers will not do well in shady places, but I have always succeeded in growing fine Pansies in such locations.

Some years ago a German friend of mine, who grew vegetables for market, brought me one day a bouquet of the most beautiful Pansies I ever saw. They were wonderful for size and variety of color. Some were really black when looked at out of the sunshine; others were purple, with most brilliant markings of yellow and brown; others were a soft, bright blue, and the loveliest ones of all were a pale primrose yellow, that shaded into white on the edge of the petals. I had tried my hand at Pansy growing, and congratulated myself on having fair success, but I had never raised any that would compare with those from my German friend. I asked him the secret of his success. "Come see how I grow them," he said. And I went.

His Pansies grew on the north side of the house, and had only the early morning sunshine. The soil was quite sandy, and consequently light and mellow. He told me that he sowed seed for next year's flowers in July or August, and September, and never kept this year's blossoming plants over, as most persons do. The vitality of a plant is exhausted by one season's bloom, and young plants are what should be depended on. If these are started late in summer they are strong enough to winter well, and early in spring they will begin to bloom, and can be relied on, with proper management, to give a constant succession of flowers through the season. Old plants will give a few flowers, but never as large and healthy ones as young plants will. My friend told me that he used in his Pansy-beds well-rotted manure from the cow stable. This he worked into the soil thoroughly. He kept the ground mellow, and free from weeds, and, in dry seasons, he took care to see that the plants did not suffer from lack of water. He put leaves about the young plants as a protection in winter, and these leaves he worked in about them in spring, thus making their winter covering afford them food during the blooming season. They seem to be very fond of leaf-mold, and if I could obtain it in sufficient quantities I would prefer it to any other manure.

One reason why so many fail in growing these flowers well is, because they select shady locations for them where there is not a sufficient circulation of air. In these close, damp places the plants mildew, or make an unhealthy growth, which is sure to fail in bloom. They like shade, but they must have plenty of fresh air. I have followed his advice since then, and I have been gratified by his compliments regarding my success.

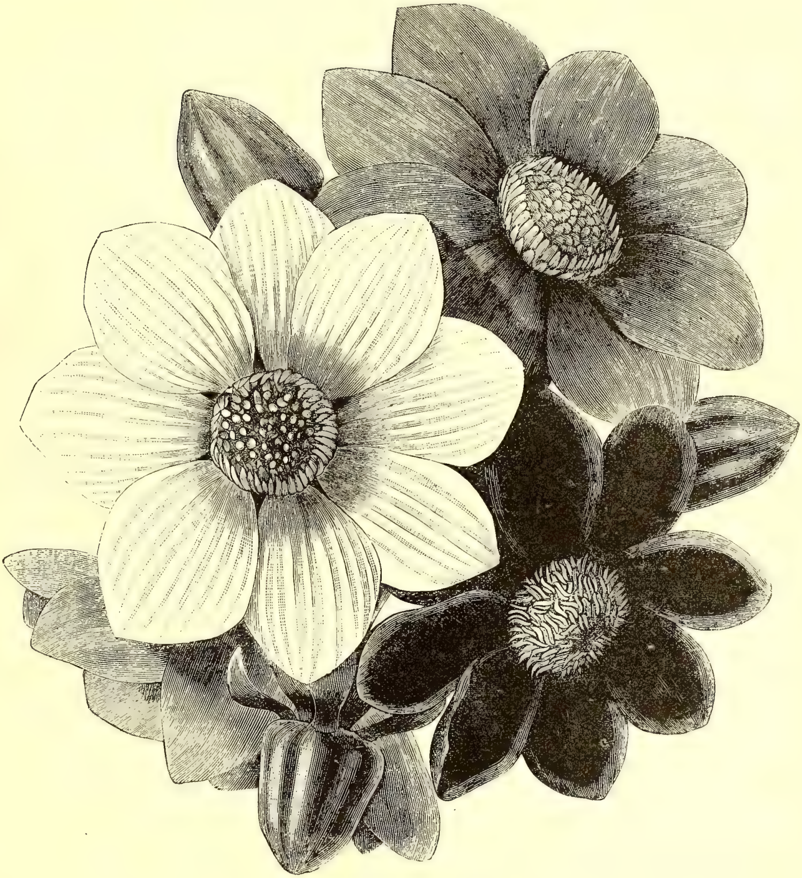
Save seed from only the best strains, and sow each variety by itself. They will not always be like the flowers from which your seed was obtained, but they will be beautiful enough to satisfy any one who loves brilliant colors, and mine have never "sported" very much. If the soil is *too* rich there will not be as generous a crop of flowers as will be the case where the soil is moderately so.

EBEN E. REXFORD.

SINGLE DAHLIAS.

At one time, and that very recently, no one ventured to have such a thing as a single Dahlia in his garden. In raising seedlings of the double type all the single forms, good or bad, were looked upon as little better than weeds. Yet this change of opinion in favor of these handsome plants has been so great that the original species have been re-introduced from Mexico, and are now largely propagated and hybridized, great care being taken to exclude every type showing a tendency to double flowers.

This revival of original forms, says *Gardening Illustrated*,—which gives the following directions, and from which the accompanying life-like illustration is reproduced,—is a healthy sign, and means that the hard lines which guided specialists in flower culture, and through them the public, are being broken down. It is well it is so, in this case at least, for these single Dahlias are bold and handsome flowers. We enjoy a fine double Dahlia as well as any flower, but these single Dahlias are so distinct that they add a new charm to our gardens, and they are also very graceful in form, particularly some of the smaller species.



GROUP OF SINGLE DAHLIAS.

VARIETIES.

As to these, there is no doubt that the majority have had their origin in *D. variabilis*, one of the first introduced species from Mexico. From it have been derived the innumerable double-flowered kinds. *D. glabrata* and *D. coccinea* are two original species. *Lutea* and *Paragon* are forms of *D. variabilis*. The last is a lovely kind, the rich maroon tint of the blossoms being overlaid with a velvety luster. The clear yellow color, too, of *lutea* is extremely desirable, and forms a fine contrast to that of the others. *D. glabrata*, known as *D. Merki* and *D. Decaisneana*, is of spreading growth, attaining about three feet in height and extremely floriferous, thus making a pretty border flower, as well as being useful for cutting purposes. Other kinds in cultivation are *D. Cervantesi*, with crimson flowers and similar in growth to coccinea; *D. scapigera*, a slender kind, about two feet high, with procumbent stems and white flowers about two inches across. Other very good kinds are *D. alba;* Yellow Gem; Pink Beauty; Morning Star; White Queen.

CULTURE.

The easy culture of these plants, and the freedom with which they grow in fresh, rich soil make them all the more valuable. They are useful for a variety of positions in the garden. They, by themselves, make fine masses or groups, and may also be associated with fine-leaved plants, such as Cannas. For the mixed border they are very handy, and the flowers being useful in a cut state, the plants may, in large places, require to be specially grown in nursery beds for that purpose.

The single Dahlia seeds with freedom, and seedlings, which largely reproduce the features of the parents, are easily raised; of course, named kinds cannot be expected to have any lengthened popularity. Still the raising of any large number of these entails considerable trouble, and as good kinds are easily kept and propagated, they have a better chance of longevity than the named varieties of many other plants.

Single Dahlias may be grown well in large pots for greenhouse and conservatory decoration. It is not at all necessary that they should be largely employed for such purposes during the summer, but from the end of September, when white frosts may be looked for, on to Christmas, they would prove most valuable. Single Dahlias, growing in conjunction with naturally-grown Chrysanthemums, would be indeed pleasing and something to rejoice over. Late struck cuttings, kept restricted in pots through the summer, and shifted into ten-inch pots at the end of August, should make capital plants for late autumn blooming.

Lawn and Landscape.

ORNAMENTAL CLIMBING VINES.

Climbers or Creepers should pertain to every home. There should be no dwelling-place, however small and humble, but a climbing vine should twine about and soften its main angles and projections. In view of this important consideration, let us examine briefly the manner in which such vines are used in a good instance of a well-adorned country home.

We will first enter our lawn or garden-spot in June, as the month during which more varieties of Climbers can be seen in bloom than at any other time.

To-day our attention is drawn to a lovely Wistaria twining along just under the eaves of the porch or piazza. This is the true way to train a Wistaria. Let it run away up in the eaves, and don't encourage side-shoots below much during any part of the season. It may take several years to get your Wistaria started, but do not despair at the delay, because when it does once start it will grow very rapidly. The Wistaria should be always trained, as we see it here, on a wire beneath the edge of the porch roof, so as to fringe the whole length with its pendent clusters of exquisite flowers. You can have purple or white Wistarias, and larger and smaller clusters, according as you may select one or other of the different varieties received from China and Japan, and the season may be further prolonged by using the late blooming American species, *W. magnifica.*

In looking about the well-planted dooryard before us, we do not expect to be able to consider all the attractive varieties represented; but Roses and Honeysuckles, it would be at once allowed, must be treated with attention. Examine the arrangement of the wires on which most of the vines are trained. It is, you remember, absolutely necessary to have an arrangement of wires for your vines to run on, if you desire to avoid endless bother when you undertake to paint your house and train your Climbers in any satisfactory manner. In this case, you will notice the wires are nailed across the angles formed by the columns and roofs of the porch, forming a kind of gothic arch or window, through which one looks from the house. The Climbing Roses used are Baltimore Belle, white, and Queen of the Prairies, blush color, and when you have these two kinds you have the best of Climbing Roses. Both of these varieties climb readily and vigorously to the roof, and bear an abundance of flowers. Their weak point is their foliage, which suffers from insects, like the foliage of all Roses except *Rosa rugosa.*

Climbing Roses need sharp and persistent pruning every spring, and some guiding through the summer, to spread their foliage equally and develop abundant bloom.

On the whole, I think Honeysuckles are more satisfactory as Climbers than Roses, most satisfactory, perhaps, of all climbers. They are so hardy, close-growing, and persistent in retaining their foliage into very winter; and then no other climber can surpass them in sweetness of odor and ability to thrive under the most adverse conditions of soil and climate. They are also equally admirable as Creepers, and you will find no plants more thoroughly successful and effective in sterile shady spots, such as you see in this garden we are looking at, where, in a neglected corner, behind an arbor, the evergreen Honeysuckle, *Lonicera sinensis,* has heaped up, where the hardiest grass would fail, graceful masses of foliage under the dense shade of a large Norway Spruce. The several white, variegated, yellow, and pink colors of the different varieties of Honeysuckles in turn, bloom all summer, and mingle well with other Climbers.

Here you see a Virginia Creeper has been used with the Honeysuckles. With what strong effect the rich and vigorous leaves of this Ampelopsis pile one upon another, like overlapping shingles of green. No vine grows into a mass more rapidly than this one, nor covers more effectively a wall, a stump, or even a heap of stones. On a wall or trellis it should, as well as the Honeysuckles, be pruned back severely in early spring, so as to evenly distribute the foliage. On an open piazza it may be trained along the eaves like the Wistaria, and made to produce, in a year or two, lovely trailing garlands of foliage, which, swaying in the breeze, and adorned with black berries and autumn tints of crimson, are very attractive.

The Trumpet Creeper, *Tecoma radicans,* crimson, and *grandiflora,* orange-colored, growing in this garden over an old stump, make valuable features in their full bloom in August. Their habit of growth is somewhat coarse and untractable, which unfits them for training on walls and arrangements of wire. Then there are the modest but charming *Akebia quinata,* with its neat, curiously-shaped dark green foliage, and the bold, broad leaves of the Dutchman's Pipe, *Aristolochia Sipho.*

But most exquisite of all are these charming Clematises, trained here on a wall of lattice-work. All summer, one or other of them is in bloom, and if the June flowering ones, especially *Jackmanni,* are pruned just after they flower immediately at the base of the faded flower cluster, another season of bloom can be secured in early autumn. No other class of plants can be used so effectively for various purposes. They may be twined on poles, used for covering trellises, forming beautiful and excellent screens, or may be trained low to cover beds in lawns. The new *C. coccinea,* which is just being introduced, is a most attractive species.

We have said nothing of the time-honored English Ivy, because Ivies do not thrive well on the walls in America north of Washington, D. C., or perhaps Norfolk, Va. By a little protection, however, in even northern New England, Ivies can be used in the form of carpets or beds over the ground, and very charming they are, used in this manner.

To secure a really good climber with rootlets that cling closely to brick and stone walls, we must turn to the so-called Japan Ivy, *Ampelopsis Veitchii* or *tricuspidata.* Except that it is not evergreen, this charming Climber need yield in no way when compared with the best of Ivies. The sheen and richness of its green, the decorative forms of its leaves, and the perfect way in which they lap over each other and cling to brick, stone, and woodwork, makes its value unique.

Most of the climbers mentioned in these brief remarks may be planted with perfect safety in autumn, as well as in spring.

S. PARSONS, JR.

The Window Garden
AND GREENHOUSE.

ARRANGEMENT OF FLOWERS.

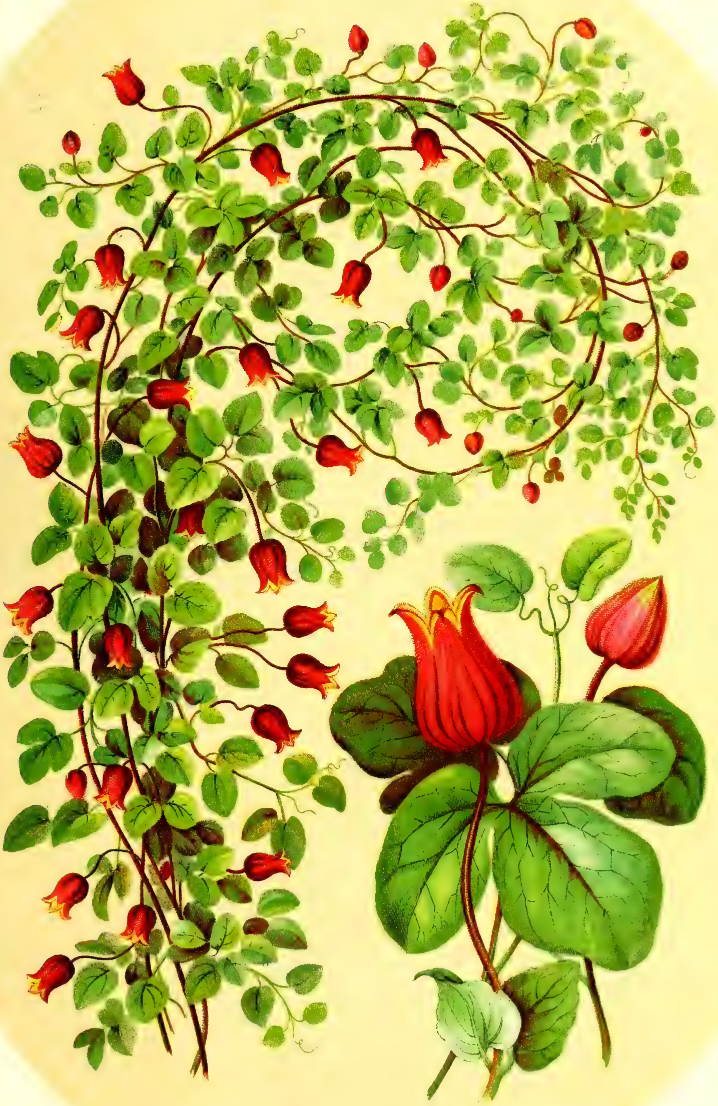
The effect of large flowers is generally spoiled by an intermixture of little, tiny flowers of other kinds. A bunch of Gladiolus, for instance, loosely arranged, cannot be improved by additional flowers, or by an attempt to tone down its blaze of color with leaves of other plants.

However, it becomes often desirable to group together a number of different flowers, so as to be as compact as possible, and still produce an artistic effect—that is, to make a bouquet. To some persons bouquet-making comes so natural that their artistic taste affords them a better guide than any rules that can be laid down; but to those less fortunate the following directions, given in the *London Garden,* may be of value:

Take first a mass of white, it may be a truss of white Geranium, a double-white Stock, or a Clematis—or, for a small bouquet, a bunch of the small double Pyrethrum; then scarlet, which, to an artist, means orange, as, for instance, a double scarlet Geranium, Tom Thumb Nasturtium, or any brilliant orange, though that color is not so abundant as it ought to be. Put any of these next the white, on one side of it; then take red, a bright rose—and the brighter the red the nearer it should be to the white, so that other duller reds may be beyond it. By red is meant all colors of crimson; but red is the true designation. Place these on the other side of the white. Some very dark, almost black, flower may be also brought near the white, but only a very little of that color; and beyond the scarlet a very little bit of blue, such as that of an Emperor William Pansy or a little sprig of Lobelia. Beyond the red have purple and yellow brought together, and on the other side Picotees, which, although rich in color, are not prominent, though any flowers that have broken colors will do. Beyond these again bring in blue in some mass, and your taller flowers, as Pentstemons (the blue kind makes an admirable background), dark-colored Fuchsias, some flowers, or leaves of a brownish hue, should interpose beyond the blue, and the last to introduce should be the Maiden-hair Fern, which certainly makes at all times a very pretty background.

Make this bouquet up in your hand, and avoid too much formality, as the colors will generally arrange themselves with sufficient effect and force, though they may intermix a little. A bouquet has generally one view, in which case it should slope gently upward; then the white should come near the bottom. If it is to be seen all round, the white should be in the center, with the above arrangement of colors in masses round the white. When your bouquet is large enough, tie it round in the middle of the stems, cut them off evenly, and drop it in a vase of water.

Two principles may be followed in making up a bouquet—one, harmony and contrast of color; the other, force of light and shade. Whichever is chosen to begin with, pure white is absolutely necessary; even if only composed of a single white flower, it should be the largest mass of the whole.



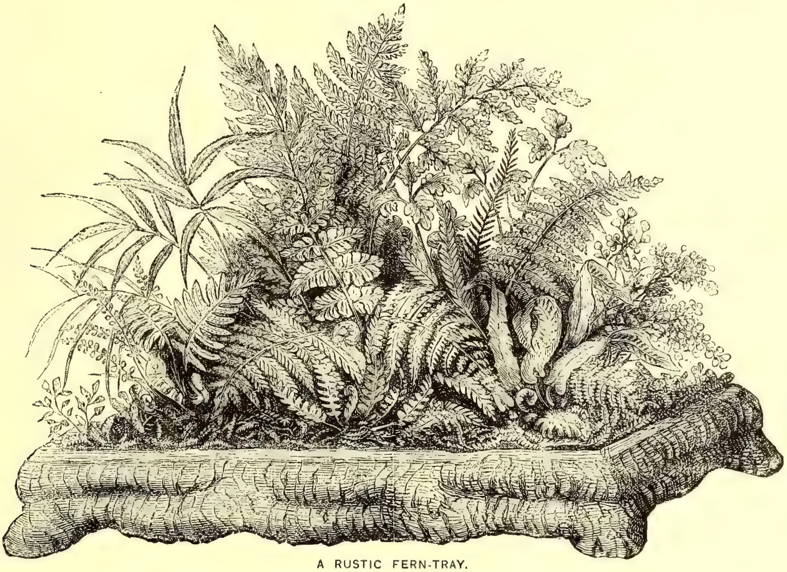
CLEMATIS COCCINEA
SUPPLEMENT TO THE
AMERICAN GARDEN

A RUSTIC FERN-TRAY.

Few objects contribute more to the adornment and home-like appearance of rooms than live plants, and of these none are more graceful and delicate than Ferns.

Planted in window-boxes — with here and there interspersed a little plant of the Partridge-berry, *Mitchella repens*, whose red fruit enlivens the whole by its brilliant color, and, where it can be obtained, the Trailing Arbutus or May-flower, *Epigea repens*, which makes the air so fragrant with its pretty, pale pink blossoms in early spring — Ferns lend an incomparable charm to a home. *Pyrola Chimaphilla*, *Spiranthes*, *Orchis spectabilis*, and many other small wild flowers, are very handsome, and would grow well in such a box. Some of the larger mosses also, when laid on the top of the soil, produce a pleasing effect, and add to the well-being of the plants.

An ordinary window-box will do admirably for the purpose; or, where one is not at hand, a very neat and inexpensive tray can be made of boards, and covered with the bark of trees or split branches, as shown in the accompanying illustration. The box can be of any size, most convenient to fit the recess of a window. Three feet by fifteen inches, and eight inches deep, are good dimensions. The box should be lined with sheet lead, zinc, or tin, painted; at one end a small pipe, of about two inches in length, should be firmly soldered into the lining. This may be stopped by an ordinary bottle-cork, or, what is better, have a small tap or stopcock attached, to draw off the superfluous water.



A RUSTIC FERN-TRAY.

The bottom of the tray should be covered, to a depth of an inch or an inch and a half, with coarse gravel or pieces of broken flower-pots, to effect perfect drainage. The remaining space is then filled with dark soil from the woods, such as is found among rocks. Where this is not obtainable, a mixture of loam, sand, and a small portion of decayed manure may be used.

In digging up the plants, small specimens are to be preferred, as with these the roots are less liable to be injured, as is almost unavoidable with large ones. A damp or cloudy day should be chosen, and the roots covered with soil at once. When planted in the box, all decayed matter should be removed, and the roots placed in their natural position; fine soil should be drawn around them, firmly pressed, and covered but little deeper than the plant stood in the woods. When all are planted, give a good watering with a fine rose, and apply no more water till the soil becomes dry.

Our woods abound with many fine Ferns, well adapted to house culture. Of the evergreen species, *Polypodium vulgare* and *Aspidium acrostichoides* are the most desirable; then there are the delicate Maiden-hair, *Adiantum pedatum*, and the Bladder Fern, *Cystopteris fragilis*, the Sensitive Fern, *Onoclea sensibilis*, and many excellent kinds of *Aspidium*, *Asplenium*, *Woodsia*, *Dicksonia*, and *Botrychium*.

If you are in a locality where the Hartford or Climbing Fern, *Lygodium palmatum*, grows, do not neglect to secure a few plants. Though rare, it is found in many places throughout New England, and is one of our most graceful species; from a running root-stock it sends up slender, twining stems, with smooth, delicate, palmate leaves, being at once suggestive of a miniature Ivy.

Camptosorus rhizophyllus, the Walking Fern, is quite an oddity, and grows in tufts among shady rocks; the leaves, or fronds, are simple, with a heart-shaped or hastate base, and gradually taper into a slender runner, which strikes root at the end and forms a new plant.

September is an excellent time to transplant our native Ferns; their fronds, being nearly mature, are less likely to wilt, should the roots be slightly disturbed; and as our native species grow mostly in clumps, they can be readily lifted entire and carried some distance without injury.

Ferns require considerable moisture and little sun, but should not be entirely excluded from it.

Having carefully planted the box, place it out-of-doors, in a shady situation, until severe frost sets in, when it should be taken into the house and located in a bay-window or cool plant-room.

The chief cause of non-success with plants in rooms are the extreme dryness of the atmosphere and the noxious gases which escape from stoves and heaters. These obstacles may be partly overcome in a bay-window, protected by curtains, or a small room devoted to plants exclusively. To protect the Ferns from the dust arising in sweeping, which is especially injurious to plants, a light, cheap wire frame may be constructed, to stand over the box, which should be covered with a cloth or newspaper when the room is being swept, and when the doors and windows are open during freezing weather.

The box should be so arranged that it may occasionally, during mild weather, be taken out-of-doors, and the plants washed off with water sprayed through a fine rose. This will remove the dust from the leaves, and prove exceedingly beneficial to the general condition of the plants. C. R. Hexamer.

Hyacinths, to bloom about Christmas or New Year, should be potted now, in rich, light soil. The pots should be placed in a dark, cool cellar, covered with four to five inches of sand or light soil, and kept moderately dry. When the pots become well filled with roots, they may be brought to a light, cool room, increasing the temperature gradually and giving plenty of water.

Foreign Gardening.

COCOA AND CHOCOLATE.

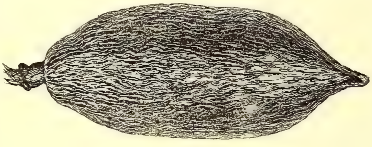
Probably few of our readers, while drinking these favorite beverages, have ever thought to ask how the plant producing them grows. Yet its culture forms a large part of the industry, not only of the great Amazonian valley, but of other portions of tropical South America.

The Cocoa *(Theobroma cacao)*—the name signifying "food of the gods"—is a small tree, or rather large bush, seldom exceeding fifteen feet in height, although we have seen very old trees which were thirty feet high. It has large, oblong, taper-pointed leaves, which, when young, are rosy and very beautiful. The flowers are small, fragrant, yellowish, and are borne in clusters on the trunk and larger branches. The fruit, of which we give an illustration, is about twelve inches long, varying, however, greatly in size, and about five broad; it is oblong, blunt, and is marked with ten elevated ribs running lengthways, and is, when ripe, of a bright orange-yellow, with a hard shell. Although authorities state that the fruit contains from fifty to one hundred seeds, we have never been able to find one containing fifty; the average is from thirty to forty-five. These seeds are imbedded in a white, semi-acid pulp, and in size and shape somewhat resemble almonds; it is from these seeds that the Cocoa and Chocolate of commerce are prepared.

The fruit is, when ripe, gathered by hand, and broken transversely by a large knife; the mass of pulp and seed is taken out, and is either left for a day to slightly ferment, or is at once put into a "Tipici" and pressed almost dry; it is then dried for from one to three days in the sun, and is then ready for market. A "Tipici" is a tube of wicker-work, about eight feet long, with a diameter of about ten inches; the top is open, and at each end there is a loop; the tube is filled with any substance to be pressed, hung upon a peg or branch by the upper loop, while a lever, upon which a woman sits, is inserted in the lower loop, the tube contracts, and the juice runs out through the interstices.

The juice running from the "Tipici" is called "Vinho da Cacao," or "Wine of Cocoa," and is a most refreshing and delicious drink; it is slightly acid, aromatic, and possesses a flavor especially its own. Unfortunately, it soon ferments, and can be preserved in its freshness for only a single day; by boiling, however, fermentation is checked, but all the delicate aroma of the wine is lost. It is almost worth a voyage across the Atlantic to drink the wine of cocoa in its freshness. This drink is very healthy, and one can consume an immense quantity. A superior white vinegar is also prepared from the Cocoa. The juice is also boiled down into a sauce which in color and taste much resembles Shaker apple-sauce; and a most delicious amber-colored jelly, far superior to guava jelly, is made from the wine, from which also a strong and very high-flavored brandy is distilled. The husks contain a large amount of potash, and are burned to yield a lye which is used in making soap. Great quantities of the Cocoa fruit are annually destroyed by monkeys and parrots, which are very fond of the seed.

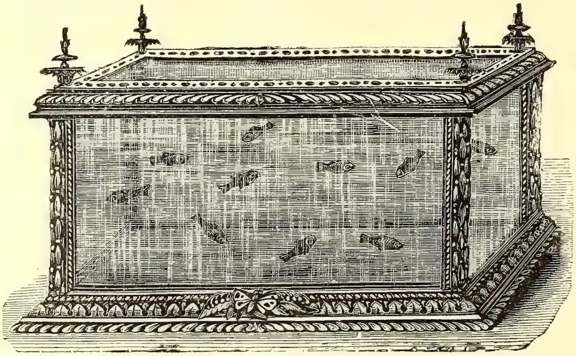
When first planted, lines of Plantains or Bananas are set out alternately with the rows of young Cocoa plants, to protect them from the sun; these bear fruit in about nine months, and are cut away as soon as the Cocoa plants attain some size. One who has not seen cannot imagine the deep gloom of a Cocoa-plantation. The rows of trees are planted so close that the branches interlace overhead, and the broad, dense foliage makes it almost dark even at noon-day. The ground is thickly carpeted with the long, dead leaves, among which is a favorite haunt of one of the most poisonous of Brazilian snakes, the jararaca, and no grass or plants of any kind are to be seen.



COCOA FRUIT.

The natives, however, all go barefoot, and it is very seldom that one is bitten; indeed, in three years we never knew of a case. When, however, the Cocoa is ripe, the effect in the cocoal is very beautiful; the large, bright, orange-colored fruit hangs thickly on the trunks or from the large branches overhead, parrots enliven the scene by their constant chatter, and the bright blue, red, and black butterflies (Morphos or Heliconias) are by no means uncommon. One weary of the turmoil of civilized life would find rest and quiet, with so much to enjoy, if he were a lover of the beautiful in nature, that the days would seem all too short, by spending a winter upon a Cocoa-plantation.

E. S. RAND, JR.



AQUARIUM.

Household Pets.

THE AQUARIUM.

The various pets nursed and cared for in Aquariums are of a rather peculiar kind, but certainly not less interesting than those that move on the dry ground or fly in the air; and a more charming and attractive parlor ornament can hardly be imagined than a properly kept Aquarium. It affords an inexhaustible source for study and intelligent amusement during the winter months, when lawns and flower-beds are hidden under ice and snow, while it suffuses an air of intelligence and refinement throughout the entire house.

When once properly started, it requires but little further care and attention. It is a mistake to suppose that it is necessary to change the water frequently. The contrary is true, as fishes cannot thrive when subjected to frequent changes of water. In an Aquarium, as well as in lakes and ponds, the water is kept pure by the action of the plants growing beneath the surface. Plants absorb carbonic acid, of which they retain the carbon and throw off the oxygen, while animals take up oxygen and exhale carbonic acid, thus completing a continual circuit. By this reciprocal interchange, both animals and plants may remain in perfect health, even in a comparatively small space.

Nearly all plants found growing under water are suitable for a tank; yet they should be sought in slow flowing streams and ponds rather than in rapid running brooks. None but soft spring or rain water should be used for filling. Well water is generally too hard.

In fitting up an Aquarium, first get a sufficient quantity of clean pebbles and sand to fill the tank to the depth of about three inches. A few larger stones arranged so as to form caves and grottoes produce a pleasing effect, and most fishes love such hiding-places. A tank of ten by eighteen inches will support about twenty fish. These should be nearly of a size, and not more than three or four inches long. Lizards, Eels, Tadpoles, several species of beautiful water Snails, and some kinds of bivalves, which are valuable as scavengers, should not be omitted.

The tank should stand near a window or skylight, but not in direct sunlight for any length of time. If the glass becomes coated with confervæ, or slime, it can easily be cleaned with a sponge fastened to a stick.

The whole secret of success of an Aquarium consists in the exactness with which we imitate nature. The plants and animals should be so selected and disposed that they become mutually self-supporting and flourish as well as in their native locality, forming a little world of their own.

BOOKS AND PAMPHLETS RECEIVED.

Montreal Horticultural Society and Fruit-Growers' Association of the Province of Quebec.—List of Premiums, open to the Province of Quebec. Exhibition to be held in Montreal, in September. Date not stated.

Horticultural Reports.—By the kindness of Mr. M. Crawford, of Ohio, we have received reports of the summer meetings of the Portage County, Summit County, and Stark County, Horticultural Societies. All three contain interesting information, and show a lively interest among the members of these societies, well worthy of emulation.

New York State Agricultural Society, Bulletin No. 5.—Giving the replies to a circular issued July 22d. The Hay crop throughout the State is reported much better than last year. Potatoes and Corn are suffering severely for want of rain. Fruits, Apples especially, are in many sections an entire failure.

Tenth Cincinnati Industrial Exposition.—National Exhibition of Art and Industry. Opens September 6th, closes October 7th. Prospectus and classification of the articles to be exhibited. These exhibitions have become larger and more successful with every year, so that they are now second to no similar exhibition in the country.

Pennsylvania State Agricultural Society and Pittsburg Exposition Society.—List of Premiums of the combined Exhibitions to be held at Pittsburg, September 7th to 20th. This promises to be a grand exhibition. Forty-one thousand dollars are offered as prizes in the various classes.

Kansas State Board of Agriculture.—Quarterly Report for the quarter ending June 30th, containing special papers on Education for Farmers, the holding of Farmers' Institutes, Practical Botany, Fish Culture, and the raising and management of Sheep in North-western Kansas, together with reports as to condition and yield of crops, condition of fruits, farm animals, meteorological data, public lands, etc.

South Australia Report, on the progress and condition of the Botanic Garden and Government Plantations, by Director Dr. R. Schomburgk. This highly interesting pamphlet contains the results of a great number of experiments with most of the new plants introduced from Europe and America. Special attention was given to Wheat, Fodder-Plants, and Grasses, Medical Plants, Flower-farming, etc. The large and well-stocked Plant-houses are noted, as well as the additions to the Museums, Herbarium, Library, and Zoölogical Garden.

It seems surprising that so much can be accomplished in a climate of such wide extremes. Severe frosts during June and July had a most disastrous effect upon the tropical and sub-tropical trees in the garden. During six months only two and a half inches of rain fell. January set in very hot, the heat rising considerably, and reaching its culminating point on the 18th; the maximum temperature, registered at 3 P. M., was one hundred and twelve degrees in the shade and one hundred and eighty degrees in the sun, the latter being, without exception, the highest hitherto recorded. The highest temperature before registered in the sun was on the 20th of January, 1879, when it rose to one hundred and thirteen degrees in the shade and one hundred and seventy-two in the sun. As the boiling-point is two hundred and twelve degrees, it will be seen that the heat in the sun, on the 18th of January, was within thirty-two degrees of that temperature.

CATALOGUES RECEIVED.

J. G. Burrow, *Fishkill, N. Y.*—Descriptive Price List of Small Fruits. Primo Strawberry and Jefferson Grape specialties.

Ellwanger & Barry, *Mount Hope Nurseries, Rochester, N. Y.*—Abridged catalogue of select Fruit and Ornamental Trees, Grape-vines, Small Fruits, Shrubs, Roses, etc.

George S. Josselyn, *Fredonia, N. Y.*—Descriptive circular, with large plate of the celebrated Fay's Prolific Currant. Also, Small Fruits in great variety.

Mapes' Complete Manure—"A" Brand.—A great number of reports from farmers in New Jersey, Pennsylvania, and New York, all speaking of the great value of this fertilizer for Fall Crops.

Wm. Parry, *Parry, N. J.*—Kieffer's Hybrid Pear. A descriptive circular, with price list, of this peculiar variety, a descendant of the Chinese Sand Pear, which is claimed to be free from blight.

E. P. Roe, *Cornwall-on-the-Hudson, N. Y.*—Catalogue of Small Fruits and Grape-vines for the summer and fall, 1882. A handsome and carefully prepared catalogue of all the best varieties, giving clear descriptions and practical directions for cultivation.

ANSWERS TO CORRESPONDENTS.

Lily Culture.—*Mrs. T. A., Pittsfield, Mass.*—The AMERICAN GARDEN of October, 1881, contains an excellent article on Lilies, with practical and concise directions for their cultivation. If a more elaborate work is wanted, we would recommend E. S. Rand's Bulbs.

Guinea Fowls.—*Mrs. J. B., Cambridge, Md.*—Guineas are strictly monogamous, and must therefore be kept paired off. They are good layers, but poor setters, and the eggs should be set under an ordinary hen. The young birds must be kept from dampness and cold, and be well cared for generally.

Plant for Name.—*L. A. W., New Madrid, Mo.*—*Tradescantia Virginica* is the name of the beautiful blue flower, popularly called Spiderwort. It grows wild in moist woods throughout the Middle and Southern States, and is often found cultivated in old gardens. The flowers are normally bright blue, but vary sometimes to purple and white.

Rabbits.—*C. N. B., Kinsley, Ka.*—We do not know of any better method to destroy Rabbits than trapping or shooting. In some parts of Australia they have become such an unbearable pest that the government offers a bounty for their destruction. From present appearances something similar will soon have to be done in some of our Western States.

Sorghum Syrup.—*N. A. C., Lincolnton, Ga.*—Ordinary syrup can be made by simply expressing the juice from the canes, boiling and skimming off the feculent matter. To produce clear, pure syrup, however, requires a Sorghum-mill and evaporator. In either case, it is important to cut the cane before the seed ripens, and before frost, else much of the saccharine matter becomes lost.

Western Exposure for House-Plants.—*Mrs. L. D. E., Dansville, N. Y.*—Next to a window facing north, one with western exposure is the least favorable. Yet, if the plants are healthy, and are not watered more than is good for them, they may be wintered in this way. Geraniums, Carnations, Roses, Calla, and all kinds of Dutch bulbs, are suitable for a cool room with western exposure.

Squashes not Bearing.—*Several Readers.*—There is always some uncertainty about the early bearing of Squashes; why they should bear less this season than usual is more than we can explain. The best means to promote fruitfulness is pinching-in of the vines when a few feet long. The *Perfect Gem Squash*, especially, needs this treatment, as it grows so rampantly that it forgets to set fruit, unless thus reminded of it.

Condition of Crops in Georgia.—*N. A. C., Lincolnton, Ga.*, writes: All crops are splendid here so far,—Cotton, Corn, Peas, Oats, Wheat, Sweet and Irish Potatoes, Apples, Peaches, Grapes, and all the Small Fruits, except Strawberries, which have not done well. I have the Wilson's Albany. What variety stands the hot, dry weather best? [Would recommend a trial of Sharpless, Bidwell, and Kentucky.]

Grapes for Maryland.—*Dr. A. K.*—A gravelly, sandy soil, with clay sub-soil, if not too near the surface, is favorable for Grapes. We would not advise the planting of one variety only, as every locality has its peculiarities, which have to be studied. Concord, Delaware, Brighton, Catawba, Goethe, Lindley, Massasoit, Merrimack, Wilder, Duchess, Worden, Martha, Moore's Early, Pocklington, do well in Maryland. If wine making is contemplated, Norton's Virginia, Ives, and Clinton should be tried. For complete directions in Grape Culture there is no better work than *Fuller's Grape Culturist.*

Plant for Name.—*Miss M. I. F., Claverack, N. Y.*—The flower sent is probably a species of *Achimenes.* It is not always possible to name a plant correctly from a single dried flower and leaf. It is not a native of Germany, however. Most species of Achimenes are indigenous to Mexico and Central America. The tubers should be preserved entirely dry during winter, and in early spring potted in light loam and leaf-mould. They delight in heat, moisture, and shade while growing, but in a cooler temperature when in bloom.

We are pleased to hear that our directions as to the treatment of your house-plants have proved so satisfactory.

OUR EXHIBITION TABLE.

Gloxinias, from *Henry A. Dreer, Philadelphia.*—The large box full of these magnificent flowers, which arrived in good condition, bore convincing testimony that American growers do not intend to remain behind their English brethren in the improvement of Gloxinias. The flowers were of the richest and most gorgeous colors imaginable, of good shape and very large size. They attracted marked attention from all visitors.

Extra Early Purple-Top Munich Turnip.—"*Incognito,*" who left a handsome bunch on our table, considers this variety the earliest Turnip grown. These had been sown on July 1st, and were pulled on July 31st, when they were sufficiently large enough for market, producing a marketable crop within the remarkably short time of one month. They are of good, uniform shape, with handsome purple tops and white bottoms, with small mouse-tail roots.

Extra Early Lima Beans.—*M. A. R., Corona, N. J.*, exhibits an inviting dish of this new variety, with the following comments: "I planted thirty-five poles each Extra Early and Dreer's Imperial Lima Beans on the same day, and gathered the Extra Early twelve days before the Dreers were large enough to pick; and when the Dreers were ready for table, the few poles of the former I left for seed had dry pods on. The Extra Early is not only two weeks ahead of any other, but is also the most prolific Lima I ever saw grown, and far superior to any in flavor. I live in what is known as a Lima Bean country, where some of the largest growers for the New York market can be found. A neighbor had about two acres of the common kind ready for the first hoeing when mine were planted. Notwithstanding the difference in the time of planting, the Extra Early were ready for the table first.

MISCELLANEOUS.

Prolific Vegetables.—*Chs. L. M.*, writes, August 13th, from Georgia: *The Russian Cucumbers* began bearing May 10th, and the same plants are still bearing good fruit. *The Netted Gem Melons* were unusually fine. From six hills I have gathered fifty-six Melons of most excellent quality, and the same hills are now full of young and thrifty fruit. Their excellence cannot be surpassed.

James Vick is the name given to the latest novelty in Strawberries. We have not yet seen plants nor berries, but the variety is highly spoken of by W. C. Barry, P. C. Reynolds, John Charlton, Geo. S. Wales, and other well-known pomologists, and the fact that it is introduced by so experienced a fruit-grower as Chas. A Green, Clifton, N. Y., is sufficient guarantee for its possessing superior merit.

New York Horticultural Society.—The First Autumn meeting of this society will be held on Tuesday, September 5th, at Republican Hall, 55 West 33d Street, at 2 P. M. A liberal list of premiums is offered for Orchids, Cut Flowers, and Grapes. Mr. John Thorpe will read a paper on "Bulbs in Houses," which will no doubt be of great value to all interested in the subject. All are cordially invited to attend.

Advertising Department

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Volume IV. commences with the January number, 1883, but, to induce *new* subscribers to send their subscriptions early, we will send the remaining three numbers of

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Encouraged by the success of the premiums sent out in previous years, and desirous to introduce the *American Garden* into every home, we offer special and most liberal inducements for the coming year. All articles offered are of actual merit and decided acquisitions, and several of them are now introduced for the first time.

Every subscriber, old or new, is entitled to one premium, and may take his choice of either of the following articles:

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Wild Garden Seeds. This novelty in the flower-garden, extensively introduced by us, has proved so successful, and has given such unanimous satisfaction — enabling any one to have a profusion of flowers all summer without expense — that we continue it on our premium list. Each packet contains a mixture of *one hundred* varieties of flower-seeds, sufficient for sowing a square rod of ground.

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American Racer Pea. (A quarter-pint packet.) Now first offered for sale, is considered the most desirable round pea. It is very early, productive, and of best quality. Many of those who have received it as a premium this year cannot say enough in its praise.

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The subscribers need not be all from the same post-office, as the papers will be sent separately to each address; but, to become entitled to the clubbing premiums, all must come in one order.

PLANTS.

Clematis coccinea. Scarlet Clematis. A root of this magnificent new climber. It is with much pleasure that we offer to our subscribers this peerless novelty, a beautifully colored plate and a description of which appears in our September number.

One bulb of Gladiolus Shakespeare, the best *white* variety.

One bulb of Gladiolus Isaac Buchanan, the best *yellow* variety.

Three bulbs of selected American *Seedling Gladiolus*, all different colors.

One bulb of either Lilium speciosum rubrum, L. sp. roseum, L. tenuifolium, or L. atrosanguineum grandiflorum.

One bulb of *Hyacinthus candicans.*

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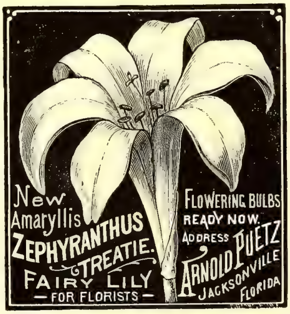

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THE MANCHESTER is destined to be the one great Strawberry of the future. So say all who have seen our beds in fruiting the past two years. **Plants set now will fruit next June.** We have a number of beds of plants, ground covered **WITH** them, strong and well rooted. We did not have half enough plants to supply the demand last Spring. Order early, and so not miss it this time. There are at least **10,000 YOUNG ONES** ready to ship at once, in pots or layers. Orders will receive prompt attention. Any one who **WANTS** a berry as prolific as the Crescent, large and beautiful as the Cumberland, firmest of all, *the* best berry under all circumstances, and always sure to produce a large crop of **BIG BERRIES** even on light, dry, sandy soil, should see our beautifully colored plate, showing one foot of a row in full fruiting, berries ripe and half ripe,

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is now ready. Sent free to all applicants. A superb stock of **Potgrown Strawberry Plants.** Plant now for Strawberries next June. A large and fine stock of the celebrated **Bidwell, Jersey Queen, Seneca Queen,** and **Manchester.** All the new and standard Small Fruits and Grape Vines. Address,

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5,000 KIEFER'S HYBRID PEARS in Orchard, and 50,000 in Nursery. Being the **introducer** of this famous fruit, I have the **original** trees, procured from the originator, in **fruiting** at **POMONA NURSERY,** from which I am propagating my stock for sale. Apply to **Head-quarters** and get the genuine. Liberal discount to the trade. Also *small Fruits, Trees, Plants*, and *Vines* in variety. Catalogue *free.* **WM. PARRY, Parry P. O., N. J.**

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A superior stock of both new and old, **TREES & PLANTS** of all the leading varieties, including a large stock of *Early Harvest Blackberry, Jersey Queen, Piper's Seedling, and Primo Strawberries, Shaffer's Colossal* and *Souhegan Raspberries, Kieffer's Hybrid Pear*, and the *New Grapes*.

Lovett's Small Fruits are the best. (Over 30 prizes were awarded my Strawberries alone at the leading Horticultural Exhibitions the past season.) My illustrated descriptive catalogue tells how to get and grow them, and is mailed free to all who apply.

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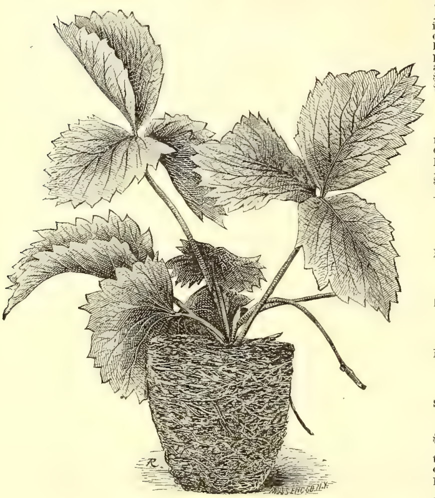

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Layer Plants of the above varieties from the beds at 50 cents per dozen; 75 cents for fifty; $1.00 per hundred.

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For descriptions of the above varieties, see our AUTUMN CATALOGUE.

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THE MANCHESTER STRAWBERRY,

From the true and original stock, for sale by

The Originator,

JESSE BATTEY, Manchester,

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✣

The immense demand which has sprung up for this unexcelled new Strawberry, and the desire that the public should not be deceived by spurious plants, which I have good reasons to believe are offered under its name, have induced me to devote my propagating fields to the growing of this variety exclusively. I shall therefore be able to warrant every plant sent out by me to be true to name.

It is safe to assert that no Strawberry introduced within several years has received as many favorable comments from prominent fruit-growers and dealers, and that no other kind combines as many desirable qualities. For family use as well as for market it stands at the head of the list, and lest my description of it might be considered as actuated by self-interest, I give here the points of excellence as stated and signed by the best-informed and leading fruit-growers who examined my fields during the bearing season:

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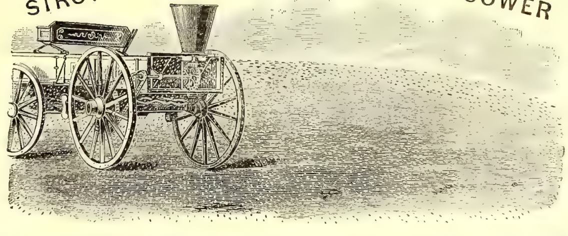

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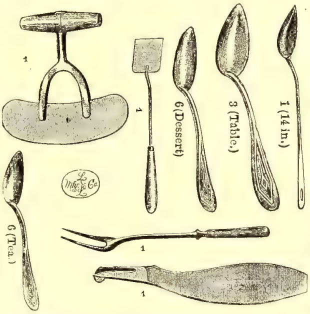

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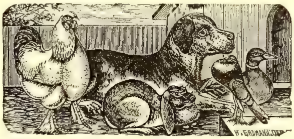

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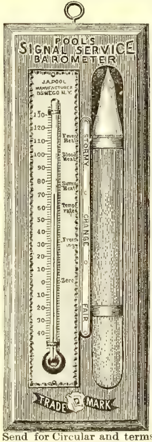
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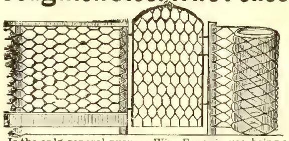

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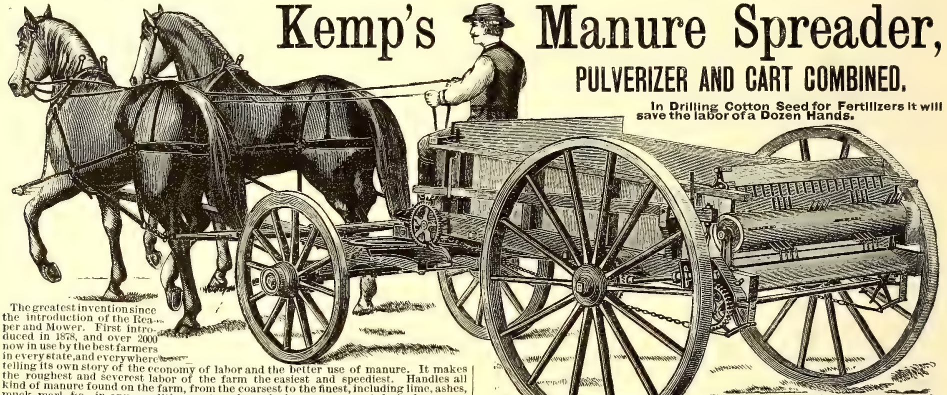

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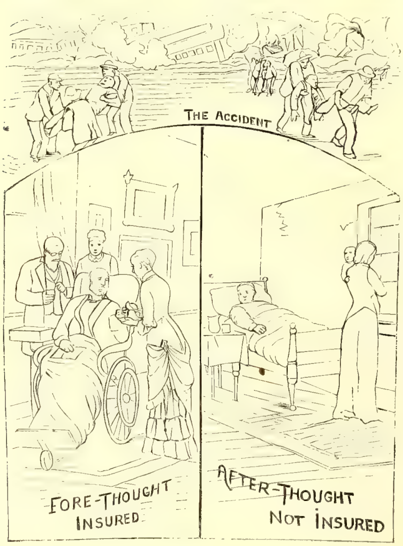

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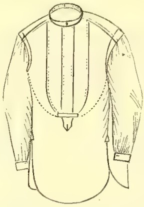

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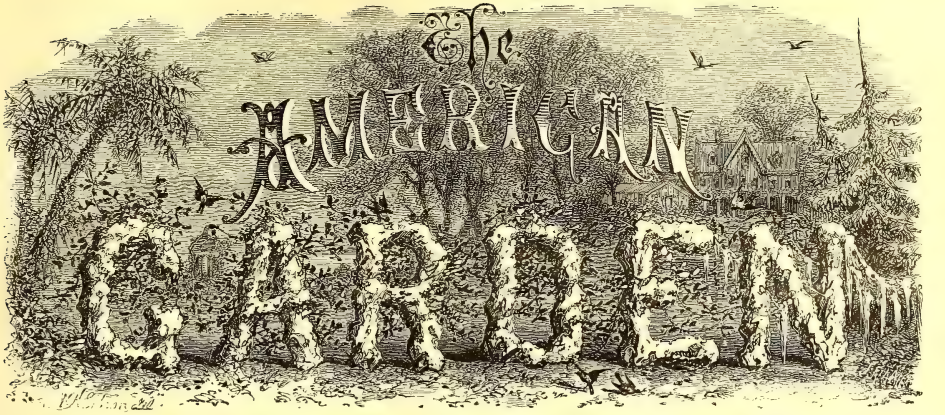

Vol. III. NEW-YORK, OCTOBER, 1882. No. 10.

The American Garden.

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will be found on page 156, and we request all our readers to give it a careful examination. These premiums are not offered in order to make up for what the paper might lack in value,—as any one who reads the AMERICAN GARDEN will soon become convinced that the information contained in its pages is worth fully and more than the subscription price,—but to prove to our subscribers that we spare no reasonable effort and expense to furnish them not only instructive, but also material assistance, in their gardening.

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and, as a special inducement, we will send also, if desired and stated when sending the subscription, the September number. This number contains a beautiful colored plate of the famous new climber, *Clematis coccinea*, a plant of which may be had *free* by any one subscribing for the AMERICAN GARDEN.

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The Vegetable Garden.

SEASONABLE HINTS.

No time should be lost now to secure all tender crops and to bring vegetables for winter storage into safety.

Beets and *Carrots* lose much of their sweetness and flavor, if not also their keeping quality, when exposed to freezing, and should, therefore, be harvested before heavy frosts threaten.

Parsnips and *Salsify* are not injured by frost, yet a light covering of some mulch will prove beneficial during severe winters, especially when the ground is not covered with snow. A sufficient quantity of roots for winter use should be dug and heeled-in in a cool cellar before the ground freezes permanently.

Tomatoes may easily be protected from early frosts, which generally occur at the beginning of this month, by covering the bushes with sheets or straw during cold nights. After the cold snap is over they will continue to bear for two or three weeks longer. It is also a good plan to pull out a few plants and hang them up in a cellar; the Tomato season may thus be prolonged considerably. Last autumn we dug up a bush carefully, so as to retain as many roots and injure the vines as little as possible, and planted it in the ground of a cold green-house, where it was watered occasionally. At first it wilted considerably, but revived somewhat after a few days, and ripened its fruit for more than a month.

Lima Beans, almost as good as fresh, may be had all winter, by drying them before ripe and before being touched by frost. The dried, green beans are far superior to ripe white ones. They should be gathered and shelled when nearly full grown, and before they turn white, spread upon paper or sheets in a warm, dry, airy place, but not where they are exposed to the direct mid-day sun. If turned frequently, they will, in a few days, become dry enough for putting away for winter.

Asparagus may be planted now as well as in spring, and on dry ground, fall planting, if carefully done, is to be preferred. On heavy or wet soils, however, spring planting is safer. Asparagus needs rich soil for its best development, but to plant it on a bed of manure, as is not unfrequently done, is a sure way of killing it; nor should the newly set roots be covered with fresh horse-manure. Leaves, straw, or cornstalks make a suitable mulch.

Celery.—The main stock for wintering should now be hilled up lightly, but only as much as may be wanted for early use should be banked up sufficiently for bleaching. The most frequent cause of Celery not keeping through winter is banking it up too early. Care must be taken not to let soil come between the stalks, nor to handle them while they are wet.

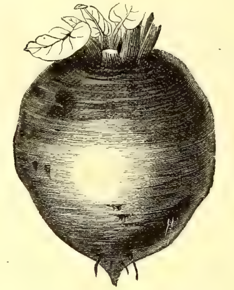
Rhubarb may be divided and planted now. The ground should be rich and light, and to obtain satisfactory results the plants must not be planted nearer together than three feet. Old clumps do not produce as fine stalks as young plants; the roots should, therefore, be taken up every three or four years, divided, and re-planted.

FARM GARDENS.

The Kirby Homestead field-garden was such a success this season that I want to say more about the system, to encourage farmers to adopt it. There is nothing more desirable, in a farm-house where there are hungry men and boys, than a bountiful table.

The old-fashioned way of planting vegetables in beds involves so much work, and the keeping them clean necessitates so much hand-labor, that the supply is generally very meager. There is nothing more irksome for boys than pulling weeds with their fingers, and we never knew a man to like this kind of work.

In the little pent-up spots which have been used for gardens for generations, there is no room for more extensive cultivation. Many of them are so small, that the ground has to be prepared, in the first place, with a spade, and the work coming after done by hand. This makes the few vegetables which may be raised really cost more than they are worth: and then the caring for them comes in a busy time, when the farm-work is pressing, and they are apt to be neglected. This neglect is the opportunity for the weeds, which they always improve, and the result is that garden-spots become so foul that it is almost impossible to keep the weeds down.



YELLOW GLOBE MANGEL-WURZEL.

For these reasons our old garden has been set with fruit-trees, and small fruits and the vegetables are raised in the field. Three days' work hoeing have kept this half-acre of garden in fine order. An hour with a horse and cultivator will kill all the weeds between the rows, and make the ground sufficiently mellow. Nobody objects to this kind of garden-work, as it is not tedious nor back-aching. It is a fact, also, that vegetables will grow much faster on the open rows, where there is plenty of sunshine, and where the ground can be kept in the light and porous condition the cultivator makes it.

The cultivator should be run through the rows every few days, as frequent stirring of the ground in this manner will cause the plants to grow much more rapidly. This work is more important in a dry time.

As soon as the vegetables in any row are used up, the whole space may be utilized for Swedes, or Flat Turnips, according to the season. No extra work is required, except putting in the seeds. All of the open or vacant space between the rows may be sown with Turnips, which will come on after the other vegetables are ripe, and not interfere with their growth.

It is wonderful what an amount of food can be produced, and at such a little cost, on a field garden. In the manner we have described, a bountiful supply of Turnips can be grown. The seed may be sown broadcast, and covered up with a garden rake—or, if scattered before a shower, the rain will work it in sufficiently. A bunch of brush drawn over the ground will also cover Turnip-seed deep enough. This is so little work that it is best not to wait for the rain to do it. Turnip-seed may be sown as late as the middle of August, and the Turnips will grow large enough for table use. The smaller and quickly grown roots are always much better than larger ones which have been growing a longer time.

It is an excellent plan to plow the field-garden in the fall, and re-plow it again in the spring. If it can be plowed early enough in the autumn to allow the weed-seed in the ground to start, they will be out of the way the coming season. If manure can be plowed under in the beginning of autumn, it will be well rotted and become incorporated with the soil better. Coarse manure is unsuited to vegetables, but if plowed under in the early part of the fall it will be all right by spring. When this is not practicable, it is best to compost the manure during winter.

F. D. Curtis.

EXTERMINATING PURSLANE.

This troublesome weed, commonly known as "Pusley," possesses amazing vitality. During wet or lowery weather, if Purslane be pulled up, root and branch, and dropped on the ground, upside down, the leaves and stems will take root, and the plants will continue to grow almost as fast as if they had not been rooted up. The plant is an annual, but the young plants appear not so early in the growing season as most other weeds. The seeds are usually small, like little grains of gun-powder. Every plant that is allowed to grow unmolested until the seed has matured, will yield thousands of seeds, which possess such vitality that they will remain in the soil many successive years without any injury to the germs; then, as soon as these little seeds are brought near the surface of the ground, they will germinate, and the young plants will cover the ground in a few days. During very hot weather Purslane will flourish with wonderful luxuriance.

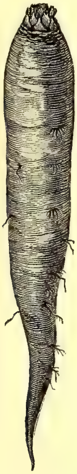
The only way to effect a thorough extermination is to allow no plant to go to seed. If no seed is produced for a few years, all the seed that is in the soil will germinate during hot weather, and the plants will die before cold weather comes on. The true way to manage this weed is to gather up the plants after they have been pulled or hoed up, throw them in a basket, and dump them all in a heap, where they will soon decay. In parts of the garden where there is an abundance of this troublesome weed, let the gardener go over the ground with a scuffle-hoe, to root up every plant; then, with a hand-rake, gather them up and put them in a basket. But, unless the gardener is exceedingly diligent and watchful, a great many strong and fruitful "Pusley" plants will mature a bountiful crop of seed, and cast it on the ground, and the tardy gardener will congratulate himself that no seed has been produced.

S. E. T.

NOTES ON BEETS.

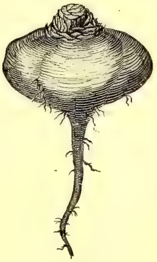
Having grown an assortment of Beets for exhibition, I avail myself of the experience gained in growing them (added to previous experience as a gardener of thirty years' service), to note their respective characteristics and value.

The *Blood Turnip Beet* is the favorite standard variety in nearly all private gardens, and as a market Beet. There are many sub-varieties, the earliest of which, introduced about ten years ago, is the *Dark Red Egyptian.* This, when young, is of excellent quality, but needs successive planting if relied upon for all-summer supply, and is of little value under any circumstances for winter use. Previous to the advent of the Egyptian Beet, the *Early Bassano* was the favorite, and a very fine Beet it is. But even had not the Egyptian come to supplant it, *Bastian's Early Blood Turnip Beet* would have done so, I think. Bastian's Beet is rather obscured by the Egyptian, and is not widely grown, but is nevertheless a valuable variety, and has the merit of keeping its tenderness through the summer, not needing successive plantings. *Hatch's Early Turnip Beet* is a variety popular around Boston, while *Simon's Early Turnip Beet* is in use near Philadelphia. But, undoubtedly, the best of this class for general use is *Dewing's*, which is very thorough-bred, with small neck, smooth root, and symmetrical form. I do not know how it could be bettered.



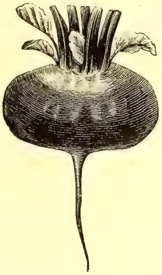
LONG SMOOTH DARK BLOOD BEET.

The half-long varieties are quite extensively grown, and are in no particular inferior to any others, though more popular, so far as my experience extends, in private gardens than among market-men. They, as well as the long-rooted sorts, are rather better keepers through the winter than any of the Turnip-shaped; yet all kinds need to be kept packed in sand to retain their plumpness and flavor, and when so packed I find Dewing's Turnip Beet to keep well until the new crop is ready. The longer sorts, however, are more productive, and a small bed will therefore give a larger supply, which is often very desirable to those whose garden is small. Among the half-long kinds none are better, than the *Common Half-long* and *Bastian's Half-long.* The latter is quite distinct, and of a fine dark color. The *Deep Red Castelnandary* and *Rough-skinned* belong to the half-long class, but do not seem to have become popular. *Pineapple* is also a half-long of great merit, with very dark red foliage and roots.



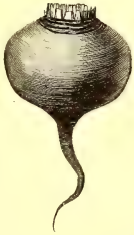
EARLY BASSANO BEET.

The long-rooted Beets have rather gone out of fashion, except with old-fashioned gardeners; yet we never had a better Beet than the old *Long Smooth Dark Blood Beet.* It is still a favorite with many, and, if the strain of this Beet has been kept pure and well selected, it is especially to be recommended to those who grow for exhibition. And, by the way, nothing looks nicer at a fair than a well grown and well displayed show of Beets. It always attracts attention, and deserves it.



DARK RED EGYPTIAN BEET.

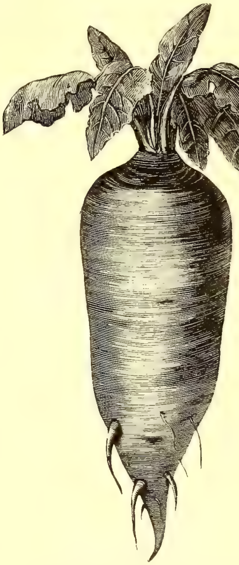
It will not do, in an article like this, to omit the Field Beets; but the list, if I were to choose it, would not be long. *Lane's Improved Sugar Beet* and the *Yellow Ovoid Mangold* seem to me the best, though for shallow soils the *Red* or *Yellow Globes* may be preferred. The *Long Red Mangold* is a nuisance, in my opinion, both in the field and in the cellar, sprawling around, "all over everything," and as crooked as the old lady's fire-wood, which she said was "so crooked that it could not lie still." Yet many grow it without complaint.



DEWING'S BLOOD TURNIP BEET.

The *Chard Beets* do not seem to be very popular, and some seedsmen do not offer them at all. But since the Beet *Anthomyia* fly, with its nasty, white little grubs feeding upon the leaves, have put an end to Beet Greens, I cannot but advise the planting of Chards, the thick mid-ribs, or chards, of which are an excellent summer substitute for Asparagus, and are, when well grown, as tender and rapidly reproduced as Spinach. A good variety is the *Swiss Chard*; but, on the authority of that most excellent authority, my own and the public's friend, Mr. C. G. Pringle, I recommend, as still better, *Beck's Improved Sea-kale Beet*, which is quite a curiosity among Beets, the leaf stocks being very broad and thick, and about a foot long, exceedingly tender and fine flavored. I do not think our gardening friends can afford to neglect these varieties if they mean to have "all the delicacies of the season."

Dr. T. H. Hoskins.



LANE'S IMPROVED SUGAR BEET.

POTATO NOTES.

Experiments in Potato culture, carefully carried out during the years 1880 and 1881, on the Munster Farm and Dairy School of the Cork (Ireland) Agricultural Society, show that Potatoes manured with large quantities of ammoniacal manures were among the first affected by disease, while those grown with phosphates were wholly unaffected, though in close proximity at either side with diseased Potatoes.

In storing Potatoes it should always be kept in mind that dampness encourages the fungus, and that stagnant humidity, whether in field or cellar, is deadly to potatoes, because favorable to the growth of fungi.

The Fruit Garden.

SEASONABLE HINTS.

Season for Planting.—Throughout all but our most northern States, and in localities where the ground is wet and cold, October is the most favorable month for planting hardy trees of all kinds. The condition of the soil, the comparative ease and the thoroughness with which the work may be done, the important gain in time during the following spring, and the condition of the trees themselves, all are in favor of planting at this season. Yet the tendency to put off for to-morrow what can be done to-day is so obdurately settled in the human mind that probably not one-tenth of the trees set out annually are planted in autumn.

Planting Trees.—A serious mistake frequently made, especially in small places, is the planting of trees on the same spots where others died. Rotation in trees is as necessary as in other crops. The defunct tree has taken from the soil a large amount of the same nourishing material which the newly planted one requires, and which cannot readily and completely be restored by artificial fertilizers. Besides, the fact that a tree died there, if otherwise than from old age, suggests the suspicion that there may be something at fault or unfavorable to tree growth in the condition of the ground on that particular spot.

Strawberries may still be planted at any time during this month, but the longer the work is delayed the more care has to be given to the preparation of the soil, as well as to the setting out of the plants themselves. To set out poor plants is an unprofitable business at any time, but at this season of the year it becomes worse than useless. If *good* potted plants can be obtained—that is, such as have been potted not less than three and not more than five or six weeks—they will give the best results, but good ground layers are by far preferable to poor potted plants.

Nursery-grown Plants are, in the majority of cases, better than those grown in the home garden. This assertion may at a first glance appear as a "trick of the trade," promulgated by nurserymen who have a surplus stock of plants for sale, yet it is an easily demonstrated fact. In all first-class nurseries the propagating beds are not permitted to bear fruit, the only crop produced by the parent plants being the layers, which become, consequently, imbued with all the vigor and propagating power of their parents. In the family garden, however, the runners constitute a second crop only, after the old plants have already spent most of their strength and productiveness in the maturing of a crop of berries, and can never fully recuperate from the effects of the stinted nourishment during their early growth.

Raspberries and Blackberries should be renewed every four or five years. Young beds produce better and larger fruit and are easier kept in order than old plantations, the soil of which has become a solid mass of roots. Autumn is the most favorable time for planting Raspberries, as they start so early in spring that the ground cannot always be brought into readiness before the commencement of growth.

BLESSINGS AND EVIL OF NEW FRUITS.

Hon. Marshall P. Wilder, the beloved President of the American Pomological Society, who is justly regarded as the father of the new era of improved fruits by hybridization in this country, takes still, at the venerable age of eighty-four years, as active an interest in horticultural developments as ever. His opinions and judgment are accepted as truisms more readily than those of any other living man, and time has evidently not chilled his ardor nor diminished his earnestness in search of the truth.

In a recent letter to us, relating to the identity of some newly introduced fruits, which seems to us too good and valuable to be justified to keep it all to ourselves, and the publication of which we trust Mr. Wilder will not consider indiscreet, he says:

"The zeal and interest now manifested in the acquisition of new and valuable varieties, especially by cross-fertilization of our best sorts of fruits, is to me a source of great satisfaction: for when I commenced the 'hybridizing' of the Camellia, fifty years ago, the word was scarcely understood. The desire for these new and improved fruits is in the right direction, but with it will come many disappointments, and among these the promulgation of old kinds under new names. This evil, just now, seems to be cropping out in several sections of our country. This picking up of stray plants in our old gardens, under the impression that they are chance seedlings, *must* be corrected (there are many instances within my knowledge), so far as nomenclature is concerned. But there will be this blessing to come out of it, we shall retain these good old things, for they, like 'truth, tho' crushed, will rise again.' Best enough."

THE AMERICAN GRAPE MILDEW.

The nature of the trouble which is called mildew is not hard to explain; and yet it is not so very easy to tell all that is known with regard to the Grape mildew. Mildews are fungi—and fungi are plants. The Grape mildew is, therefore, of vegetable origin; it is, in short, a minute plant which lives upon, and derives its nourishment from, the Grapevine.

The term *parasite* is used for such plants. The Mistletoe grows upon the Apple and other trees, and is a familiar example of a flowering plant that grows upon another. The Dodder is another case where one plant does not make its own food, but, instead, has acquired a habit, so to speak, of stealing it from one that does. The Dodder has flowers, and forms seeds—the seeds germinate in the ground, but soon the young Dodder plant must find some other kind upon which to climb, and into the tender substance of which it must thrust its stem-roots or "suckers"—or else it must die. So soon as the Dodder has become well attached, its stem—its connection with the soil—decays, and it no longer depends upon the common methods of plant-growth for its development. It forms no leaves, because it needs none so long as it feeds upon the assimilated food which the leaves of other plants have made. This parasitism of the Mistletoe and the Dodder help us to understand how the mildews, rusts, smuts, and other parasitic fungi get their living and do their destructive work.

The Grape mildew *(Peronospora viticola)* is first observed on the foliage of the attacked vines as white, frost-like patches, especially upon the underside of the leaves. The smooth-leaved varieties show the mildew to the best advantage, as it is not obscured in its early growth by the hairs or "wool." The threads of the fungus penetrate all parts of the leaves, and only come to the surface for the purpose of forming a multitude of white spores, to which the frost-like appearance is due. It is by means of these spores that the "disease" is rapidly propagated, and spread from leaf to leaf and from vine to vine.

The mildew has two kinds of spores, or reproductive bodies—those above mentioned, found on the tips of aërial branches, and a second, slow-forming kind, that are developed on the threads *within* the tissue of the Grape plant. These subterranean spores are found late in the year, and serve to carry the mildew over the winter season. The fresh spores are for immediate and a rapid propagation of the pest, and it is these that the sulphur kills or renders inactive; it does not have any known effect upon the winter spores.

The mildew makes its appearance from about the first of June to the middle of September, much depending upon the state of the weather—warm and wet days being very favorable for its development.

The thick-leaved varieties of Grapes, like the Concord, seem to be less subject to the mildew, while some tender, thin-leaved sorts are very much injured.

The remedy, as above mentioned, is Flowers of Sulphur, and it can be best applied with a bellows. It should be used early—as soon as the trouble presents itself—and repeat the dusting as the prevalence of the mildew will determine. Vines that are poorly kept, both as to manuring and pruning, are most injured by the pest.

DR. BYRON D. HALSTED.

THE APPLE CROP.

Mr. Charles W. Garfield, Secretary of the Michigan Horticultural Society, says in this relation: "There are a great many theories concerning the cause of failure in Apples. It is laid to east winds, frost, moist weather at time of blossoming, etc. The most common explanation seems to be that the continuous frosts through May weakened the vitality of the young fruit so that it dropped through June. The varieties of Apples that have hung on the trees best are Baldwin and Golden Russet. Fall Apples seem to be almost a dead failure. The Northern Spy, which is a great favorite in our State, will be represented by very small quantities in the fruit cellars next winter."

WANDERING GRUBS.

To test the truth of the theory that grubs travel from one plant to another by an underground passage, Mr. A. P. Slade, of Massachusetts, took from the ground a grub that had just completed the destruction of a plant, and tied a piece of red thread around his body, and replaced him where he was found, and covered him with earth. In thirty-six hours after, the nearest neighboring plant, which stood sixteen inches distant, was struck with death; and on examination the same grub was found at work, exhibiting clearly the mark of his identity.

THE JAMES VICK STRAWBERRY.

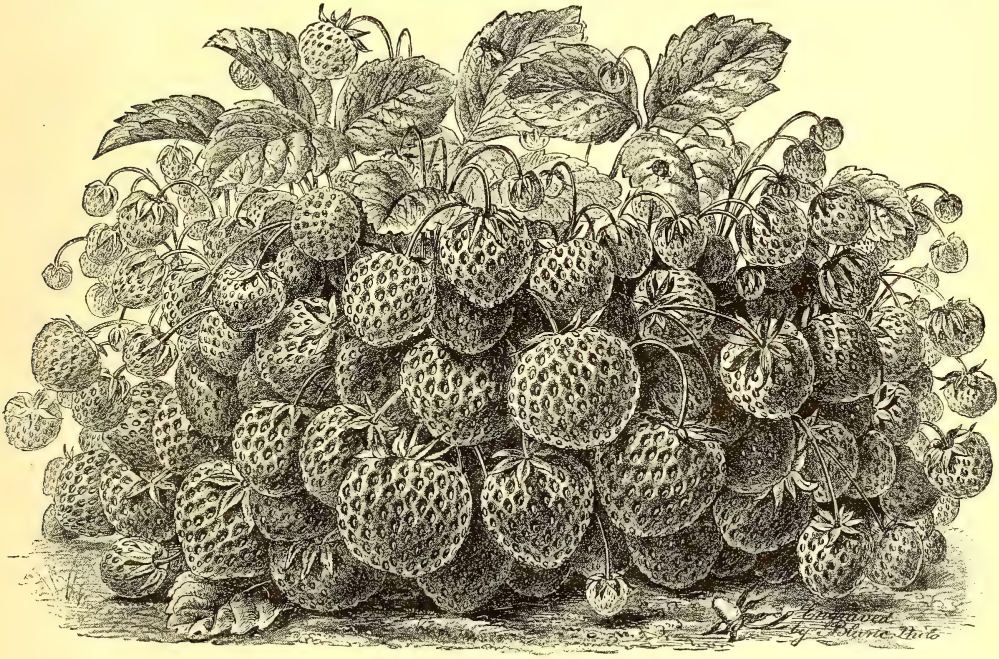
It is some time since Rochester has enjoyed a sensation in the line of new fruits. This is owing, in part, to the fact that the renowned authorities residing here decline to get enthusiastic unless the occasion is peculiarly enticing. Be that as it may, we have had a sensation in the new strawberry "James Vick," which made the greatest display, as regards quantity and beauty, of any strawberry I have seen, and in quality, size, and firmness, is desirable. Many fine fruits have been sent out from Rochester. Monroe County is the home of numerous seedlings that have made a wide reputation. The Sharpless Strawberry was scattered broadcast by Ellwanger & Barry, much to their credit.

Now comes a new candidate, bowing and smiling, and looking its sweetest, as you will note in the engraving. But is it possible that so many berries ever grew on one Strawberry plant? I confess it appears incredible, but the engraving shows only a part of what one average plant produced, and these plants were seen by our most prominent pomologists. I could see no difference in the plants, one appearing as heavily laden as another. I never saw such a sight, and this was the verdict of many.

While the James Vick cannot be ranked among the largest varieties, the size averages large, as was remarked by Secretary P. C. Reynolds—"Larger than Downing or Miners, not so large as Sharpless." Mr. Reynolds said it combined sprightliness with sweetness in a happy manner, and was *very good.* In color and form it is perfect, ripening evenly throughout, and its firmness will make it desirable for shipping. The plant attracts attention everywhere by its glossy luxuriance. I will stop now before saying more, for I know no man or berry is perfect; thus this must have a weak point. I have, however, been unable to discover it thus far.

CHAS. A. GREEN.

[Plants of this variety growing in our Experimental Garden show extraordinary vigor of foliage and roots, enabling them, apparently, to withstand sun and frost.—ED.]



THE JAMES VICK STRAWBERRY.

DO BEES INJURE GRAPES?

This mooted question is answered in the negative by Dr. T. T. Robertson, who, in proof of it, relates his experiments in the *Scientific American.* The doctor placed at the mouth of the hives bunches of several varieties of thin-skinned Grapes, and for days, although the bees were constantly crowding over them, not a berry was injured. He then punctured half of the berries on each bunch, and instantly the bees went to work on all so punctured, in a short time sucking them dry. The remainder of the berries were untouched, and remained so until punctured by him, when they in turn were attacked as promptly as the former.

This experiment demonstrates that it is necessary for the Grape to have been previously injured so as to allow exudation of juice, otherwise the bee will not molest it. According to Dr. Robertson, rot, splitting of the Grape, injury by insects and birds, are the causes that render Grapes liable to attack by bees; and when it is reflected that the berries thus injured would decay, it will be seen that the bee actually saves to us what would otherwise be lost, by storing it up as honey.

THE CALIFORNIA GRAPE.

Vitis Californica seems to be just what the phylloxera-stricken vintners all over the world have been looking for. The vines raised from seeds forwarded to the Government of New Zealand are very favorably spoken of, and, if they succeed as well elsewhere, will prove a great boon. Dr. R. Schomburgk, Director of the Botanic Garden of Adelaide, says:

"There is no doubt of the value of the Vitis Californica for grafting stock, and its use is recommended either by cuttings or seeds. But the crowning virtue is not alone that it is phylloxera-proof, but also that it makes a palatable claret wine, so that it is worth cultivation for the sake of its fruit. It is believed that it will supply a great desideratum in wine-making, and is destined in the future to make the claret of California famous. It produces tannin and tartaric potash, has no striking aroma, is sufficiently neutral, and has no disagreeable taste whatever."

CURRANT-WORMS.

It has been recommended to plant Black Currants alternately with Red ones, as a preventive against Currant-worms. We hope no reader of the AMERICAN GARDEN will follow such chimerical advice. We had a whole row of six hundred feet in length, parallel with several rows of Red Currants, and could not perceive that those nearest the black ones were less favored by the worms than the others. True, the black ones were not troubled; but if it had not been for the timely and profuse application of White Hellebore, the red currants would have suffered severely.

The Flower Garden.

THE CARDINAL FLOWER.

Clare, Anabel, and little Hugh,
Brush from the grass the morning dew,
In quest of flowers. With laughter sweet,
They press with eager, tireless feet,
Down lanes ablaze with Golden Rod,
Where white and crimson Thistles nod,
Where purple Asters, leaning, look
At purple Asters in the brook.

They gather wreaths of Clematis,
And blithely, deeming naught amiss,
Where pale pink Roses lately grew,
Pluck shining spheres of scarlet hue,
And berries like red ivory gleam
From stems of glossy Wintergreen.
And now their bright, enraptured eyes
Are fastened on a rarer prize;
Upon a steep bank, just beyond
The confines on a marshy pond,
In lonely grandeur brave and tall,
There flames a scarlet Cardinal.

They pick their way among the rocks,
Their pains the radiant vision mocks.
All reaching is in vain, and they,
With backward glances, turn away,
Till, flushed and weary with their toils,
And laden with the brilliant spoils,
That, wilting now within their arms,
Are losing fast their early charms,
They rest beside the roadside brook,
With half a disappointed look.

Ah, Clare and Anabel and Hugh,
Not if you search the meadows through,
And gather more than you can hold
Of autumn's purple, red, and gold,
Will you find aught so fair to each,
As that one flower you could not reach!

—*Congregationalist.*

SEASONABLE HINTS.

Herbaceous Plants, as Texas Penstemons, Antirrhinums, Canterbury Bells, and others that are not reliably hardy, should be lifted and transplanted to a cold frame. Some of these, when left out, survive some of our winters all right, but succumb during others; all live well in a cold frame.

If hardy herbaceous plants are lifted, divided, and transplanted in early autumn, so that they may get well rooted before winter sets in, they may winter all well and good; but if this operation be delayed till late in October or November, success is less certain. In fact, many prefer the spring-time for the replanting of herbaceous plants,—that is, with the exception of common White Lilies, Pæonias, Hepaticas, and early-blooming plants generally, which had better be transplanted in the fall.

Of Creeping Veronicas, Ajugas, dwarf yellow Yarrow, Thyme, Moss Pinks, and several other common but pretty spreading plants, a lot may be lifted in the fall, broken up into as many slips as there are rooted pieces, and transplanted thickly into sandy soil in a cold frame; they make excellent little plants for setting out in spring.

When the frost has destroyed your Scarlet Sages, Dahlias, Heliotropes, Geraniums, and other bedding plants, and you have lifted and saved what you want of them, don't let your garden remain in a rough and unkempt condition; on the contrary, smooth over the soil, cut down or root up and remove all decayed stems and dead plants, old vines, and other unsightly material.

THE CLEMATIS.

The wonderful improvement in these beautiful plants, combined with their easy culture, and the many uses to which they may be employed, has created a popularity and demand for them unequaled by any other climbers.

In answer to several readers about the hardiness and culture of the Clematis, we may safely state that all the best and most beautiful varieties are perfectly hardy in the Northern States, and of the easiest culture. Yet, as with most plants, to obtain best results, a certain amount of care and attention has to be given. Even throughout Canada they are now grown extensively and satisfactorily. Mr. Wellington, who has given much attention to their culture, stated before the Fruit-growers' Association of Ontario that he considered them thoroughly hardy in Canada, capable of the finest results, and that there is scarcely any place where they are inappropriate. "They are excellent upon the lawn as pillar or stake plants, or growing upon stumps of trees; in beds or borders, in the garden, they cover the surface with the richest carpet of brilliance and beauty; for trailing upon verandas, or trellises and arbors, there is nothing so effective and pleasing; over mounds of rock-work, with an intermingling of varieties of different colors, they present an appearance of marvelous beauty, and as pot-plants, trained upon wire frames of any desired shape, they have few equals."

In the Middle and Southern States, Clematises will grow in almost any situation if the soil is of moderate fertility, and if the roots of other plants do not rob them of their proper share of nutriment. To insure success in northern latitudes, more care is required, however. Mr. Wellington says in this regard: "Our own experience would lead us to say success depends upon high culture. It transplants well, but is a gross feeder; you can scarcely overfeed it. Select a good, rich soil, in the first place, and then annually or oftener supply heavy dressings of rich, well-rotted manure, thoroughly incorporating with the soil. Frequent applications of liquid manure will be found very beneficial, and amply repay time and trouble. The perpetual qualities of the plant are not fully brought out unless kept constantly growing, and to do this it is necessary to supply unfailing nourishment. In the fall, before freezing weather sets in, mulch heavily, from four to six inches deep, with well-rotted compost, spading into the soil in the spring before the plants begin to start. We do not know of any better system of culture than this. It has never failed to produce the most satisfactory results with us. Should the soil become heavy, we would loosen it with an application of sand or sandy loam.

They carry and transplant easily, and with any fair usage the plant is sure to grow. If liberally fed, the plant each year increases in strength and number of its shoots, and consequently the number and size of its brilliant blossoms. They generally flower the first season, and it is not uncommon for them to give grand results when well cared for, growing vigorously, and producing a profuse mass of flowers. The introduction of the *C. coccinea*, with its bright scarlet flowers, adds a new and brilliant shade to their already unsurpassed galaxy of colors.

THE EVERLASTING PEA.

I was delighted to see the article in your August number on "Good Old-fashioned Flowers," for I cultivate them religiously for the old-time associations. Let me add a word for the *Lathyrus*, or Everlasting Pea. It is a pity it is not more cultivated, when there are so many unsightly board fences whose ugliness could be so easily and elegantly veiled with it. It was years since I had seen a plant, when by accident I got one.

I had picked out all the Sweet Peas from my Premium "Wild Garden" seeds, and all flowered but one. When frost came I cut them all down except this one, that happened to lie on the ground, with several sprays still green. The winter before last was pretty severe for out-of-door plants, but, to my astonishment, there lay my Pea green on the snow even till spring. I, of course, knew then it was the Everlasting Pea, and for two summers it produced a very bower of beauty.

To produce the best effect, spread it well out, plant a pink and a white one together, and do not let them ripen more than a bunch or two of seeds, and they will flower till frost comes.

I have an *Ipomœa limbata elegantissima* that has crept up into my Peas; and early morning, when it opens its great deep blue and white flowers among the pink blooms of the Peas, it presents a lovely picture.

Now is the time to sow the seeds for next year's blooming, but they will do even as late as the end of October.

MRS. M. L. P.

WINTERING DAHLIA-ROOTS.

At this season, when night-frosts may be expected to lay low our floral treasures, the following directions given in "Gardening Illustrated" may be of value to many of our readers.

As long as the weather keeps mild, Dahlia-roots are best in the ground; but, should sharp frosts be followed by heavy rain, their removal from the ground should be prompt. A dry day should be chosen for lifting the roots, the stem of the plant sawn or cut off to within two or three inches of the crown of the roots, and the roots placed on some sticks or boughs to dry with the neck downward, and so arranged that the air can pass underneath them. Some soil may be allowed to adhere to the tubers, but the greater portion is best removed by means of a pointed stick. If the weather be fine and dry, the roots may remain in this position for about three days, if covered with a mat at night to protect them from frost. The floor of a greenhouse, or a dry cellar from which frost can be excluded, is a capital place wherein to store the roots. A little ventilation is necessary to keep them from getting moldy; and on the other hand, a hot, dry atmosphere, in which the tubers might shrivel, must be avoided. For small quantities a good way is to place the roots as closely together as possible in a shallow box, but not one on another, shake sifted ashes or sand in all around them, covering the crowns, but not the stems. The moisture attracted by the dry material in which they are bedded will suffice to keep them fresh and plump until spring.

BULBS FOR AUTUMN PLANTING.

So much has been written about bulbs, which bloom in early spring, and which must be planted the preceding autumn, that further articles upon the subject may seem unnecessary. But every spring, some one seeing the borders of his neighbor gay with the early Snow-drop and Crocus, the showy Tulip and the fragrant Hyacinth and Narcissus, exclaims, "Why did I not plant bulbs last autumn!" For the special benefit of such, as well as to remind others who may forget, a few words may be advisable.

To have a bright border of spring bulbs is no difficult matter. First choose a spot close to the house, under the windows of the parlor or "living room," for the flowers will bloom brightly on many a spring day when chill winds will prevent one from enjoying them out of doors, and thus our spring garden should always be in full view from the windows. Let it be a warm place, with a southerly exposure, and, if possible, sheltered from the wind by some angle of the house. The closer to the house the better; if there is a stone under-fencing, make the bed close to it, for often, in such a situation, Snow-drops will bloom in February, Crocus and Bulbocodium will soon follow, and the delicate Persian Iris and Duc Van Thol Tulips will not linger long behind, for the stone holds the heat of the sun and the ground seldom freezes to any considerable depth. Be careful that the ground slopes slightly outward, so that water may run off. Successive freezing and thawing will in time kill any bulb.

As to soil, for the more common bulbs any garden soil will serve; a rich, light loam is the best. If the soil is a stiff clay, although the bulbs will grow, they do not thrive, and never flower very early. In such case, spade in sand or lighter loam, until the soil becomes easily worked. Manure is not necessary, but well-rotted cow droppings or decomposed leaves, or sods spaded through the bed, add much to the perfection of the plants; rank, coarse, or fresh manure should never be used, and every precaution should be taken to draw off standing water.

The bed should be prepared by careful spading about the first of October, or even earlier, for the earlier the bulbs are planted, the earlier and stronger is the bloom in the spring. The reason is that the bulbs at once begin to make roots, and the plants, if thus well-established before winter, have only to develop the flowers in answer to the first call of the spring sun. For this same reason, a bulb bed is often better the second spring after planting, for these bulbs do not require replanting year by year, but many kinds soon form large clumps, require no care, and increase in beauty year by year. This is especially the case with Snow-drops, Crocus, and Narcissus.

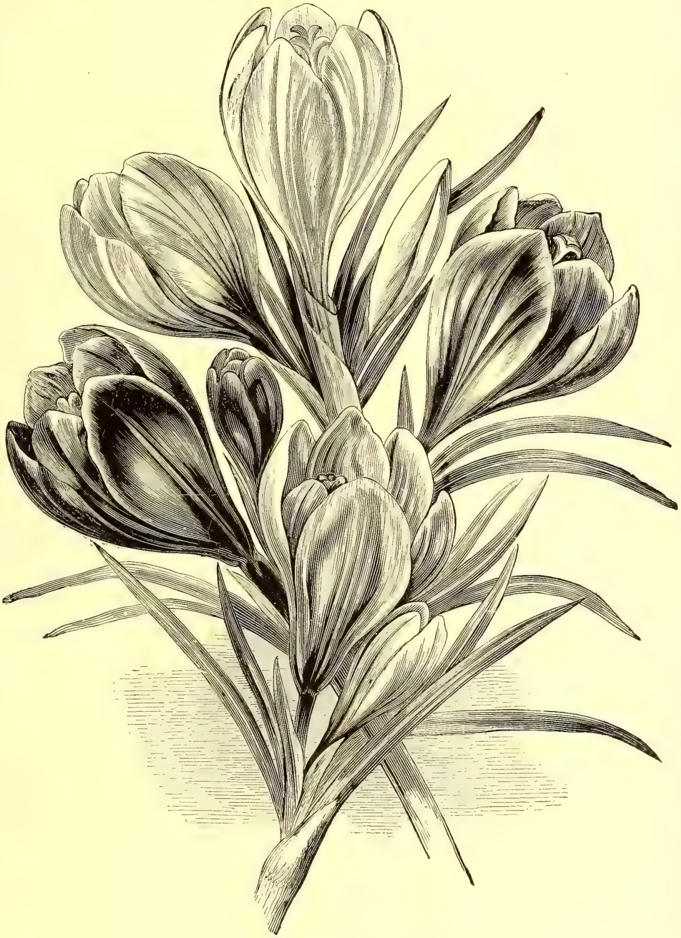
Plant the bulbs from two to four inches deep, according to their size, the smaller, such as Crocus and Snow-drops, in rather close clumps, of from five to ten, the larger either singly or in threes. The planting must depend much on fancy; it may be in lines or figures, but, however done, each color should be by itself, and varieties should not be mixed, as they often bloom earlier or later by many days.

If one has no time or space for a bulb bed, let him dig out holes a few feet in diameter, and plant clumps of bulbs, or, with a dibble, make holes and drop Crocuses through the grass; in either case the effect will well repay the trouble.

It is well, as the ground begins to freeze, to cover the bed with coarse, strawy manure, to keep the frost out of the ground; this should be removed in spring, when the bulbs show above the ground; leaves answer the same purpose, but are more apt to become sodden.

Plant Snowdrops, Crocuses, in different colors; Persian Iris, Bulbocodium, Early Tulips, Narcissus, and Jonquils, and by all means find place for a Crown Imperial, which comes up so sturdily in early spring. All these are very cheap; there are others as easily grown, and costing little, but these are the bulbs for the people. A little outlay this October will yield good return in spring.

E. S. Rand, Jr.



NEW DUTCH SEEDLING CROCUS.

LILIES.

This month is the most favorable time for the planting of most species of Lilies usually cultivated in gardens. They may also be planted in spring, but, unless planted very early, the bulbs start into growth before they have formed sufficient roots for their support, and cannot, therefore, produce as good flowers the first year as those which have been planted the previous fall, and have already become well established.

The hardier kinds of Lilies will grow in any good garden soil, although they are not ungrateful to better treatment; but Lilium auratum, L. Krameri, and several of the California species require a well-drained, deep, rich, friable soil, containing a good portion of vegetable mold. Suitable positions for the delicate kinds may easily be prepared by making raised beds similar to rockeries, but the stones should be around the beds, not in the middle of them, as is frequently the case.

Lawn and Landscape.

THE LAWN IN AUTUMN.

Do not postpone till spring anything you can as well and conveniently do in the fall. Remove dead wood from trees and shrubs. Cut down whatever trees you wish to fell, and dig up and remove whatever old shrubbery you wish to displace. If the trees or shrubs are evergreen, save the branches to help cover up or otherwise protect in winter whatever somewhat tender bushes or herbaceous plants you may have in your garden; even thick, brushy branches (as those of birch) of deciduous trees and shrubs, are also useful for the same purpose.

Fill the holes from which you have grubbed up tree roots, and pack them firmly: even then the winter's rains and snows will settle them considerably. Ground intended for fresh shrubberies, lawns, or borders, should be leveled, then heavily manured and double plowed or trenched, but it is not well to finally level off the same till spring, when you will observe a puckered surface and hollow places, not discernible before the winter's frosts and snows have compacted equally the soil.

For trees and shrubs, old peat muck is an excellent thing to introduce into the soil; but, except the fine earthy portion of it, I would not recommend it for lawns: it makes them too spongy. In poor, sandy land, though, I have found it useful for lawns and excellent for grass. It also opens up clayey soils, but for this last purpose, perhaps, there is nothing better than clean, sharp sand, and lots of it.

Except in sheltered ground, and that which is well drained and not very stiff, I should not recommend planting all trees or shrubs in fall in the Northern States. Of course, there are many trees so hardy and sturdy that you may plant them at any time with impunity, but for the finer and more tender sorts, I think the early spring is the preferable season. In the Middle and Southern States you may plant trees with almost absolute safety any time,—from when they lose their leaves in the fall till they begin to regain them in spring. But plant them when you may, please observe to have as well-rooted plants as you can get; cut clean the mutilated roots; between the time of lifting and transplanting never allow the roots to become dry, by exposure or otherwise; in planting, pack the soil as firmly about the roots as if you were setting a fence-post, and cut back the branches and top of the tree to a justifiable degree.

WILLIAM FALCONER.

THE PUBLIC GARDEN OF BOSTON.

The floral splendors and exquisite taste displayed in this lovely spot are probably not excelled, if equaled, anywhere on this continent. Immense sums of money are devoted for its maintenance, and, although these grounds are a source of pride to many intelligent Bostonians, the masses, as appears from the following description given in the *Boston Herald*, seem not to appreciate their treasure:

The people's pleasure ground, adjoining the Common, has several seasons, all too brief, of special beauty. In the early spring, when the tender green of the new grass and the early budding of the new trees delight the eye of those who have grown weary "waiting for the May," the public garden is decked out with its annual Tulip show. Bed after bed of the gorgeous flowers stretch along the walks, a border of crimson and gold, and all brilliant hues, intermingled and harmonized as only the daring yet unerring hand of nature can do it in dealing in form and color. Tulips numbered by the ten thousand, of all known varieties, contrasted here and there with the more delicate beauty of the odorous Hyacinths, give to the people's garden its first season of glory.

There is no such sight elsewhere in this country, and yet but a small portion of our citizens ever take the trouble to see it. If it were fenced in and well advertised, with a stiff admission price, doubtless the scant procession of sight-seers would become a throng.

In midsummer the beds and borders are filled with Geraniums and a great variety of foliage plants, and the solid masses of bright and dark colors, set off by the far-stretching grass-plats, make the garden again a picture of rare beauty. And later on, the stately and gorgeous autumn flowers give a fitting finale to the succession of "grand transformation scenes."

One of the chief attractions in the garden are the beds of Pansies. The lovers of this high-bred blossom can feast their eyes to satiety, if such a thing were possible with flowers, by visiting the garden on one of the rarest of rare occasions, a June day in June. The corsage bouquet of a New York belle, apparently constructed upon the frame of a sunshade, makes a wonderful "Pansy show" by itself, while a full urn or garden bed of velvety blooms is a sight to remember. But think of a bed twenty feet by six, and multiply that by dozens and scores, filled with Pansies of every conceivable hue, including the most superb specimens, and you will have an idea of the sight which the Boston public garden affords. Solid beds of golden and white Pansies flank similar masses of the brightest blue, the most royal purple the deepest blue-black, and the gayest variegated varieties.

There may be a question as to whether this elegant but still modest flower is adapted to this style of treatment in landscape gardening. To see their little human faces standing close together, in long ranks, mass after mass, stretching so far away that their individuality is lost, and the eye only perceives a patch of color, reminds one that they are living, like those who see them, an artificial life—huddled together in a great city of their own. But, fancies aside, the beds which the skillful gardeners have arranged afford an excellent opportunity for learning what has been done in developing and multiplying this choice flower "for thoughts."

City Forester Doogue has completed a quite elaborate and very tasty bit of decorative art around the base of the Washington statue. Using the choicest varieties of ornamental plants calculated for fine designs, he has traced the most graceful lines and figures, and so blended the delicate tints of leaf, vine, and blossom as to make a veritable plant-picture. It would, perhaps, be a species of moral treason for the official in charge of the city's grounds to obliterate, as it were, any of the grotesque statues committed to his care; but the forester has effectually done this in the case of the equestrian figure mentioned. For so beautiful is the flower-work at its base that no person of taste would think of raising his eyes to the bronze that towers above it. The ladies, especially, seem to enjoy this free-hand, living embroidery in leaf and vine and dainty blossom, and if the manufacturers of the fabrics they wear would try and copy with more exactness the pearl-grays, the delicate pinks, the cool lavenders, and the other lovely tints of these plants and flowers, that harmonize so perfectly with the beauty of nature in woman and landscape, they would do the world a notable service.

But the plants and flowers, fine as they are, are not the greatest charms of the public garden. The roominess of its thirty acres, the long stretches of smooth lawn, the variety of ornamental trees, the clumps of Lilacs, filling the air with their heavy fragrance, and shining ponds with their pretty pleasure-boats, the adjacent Common with its noble trees and familiar walks, and the rows of palaces that border this pleasure ground of the people, combine to make it unrivaled by any similar spot in the very heart of an American city.

The statuary, bad as some of it is from a high artistic standpoint, adds a certain impressive picturesqueness to the scene to that preponderating mass of people whose tastes have not been developed to the point where pretty nearly everything gives them pain. Even the "Venus of the Fountain," when she is not "caught without her shower on," as Mr. Howells humorously put it, seems to afford a furtive pleasure to the rural visitors with whom familiarity has not bred contempt.

The garden, while trim and neat, is not "very greatly taken care of," in the sense that Carlyle meant in flouting at the fastidiousness of an Irish lord's place which he visited. It is not too good for the public use and enjoyment. And the wonder is why the public does not make greater use of it. When the weather is not too warm for a walk, some of the dwellers in the back-bay district, whose ideas of luxury do not compel them always to "ride in their carriage," stroll through the pleasant paths of the garden and across the shady Common, on their way to town. But there is no "fashionable hour," nor fashionable throng, in this noble breathing-place. As the Common is used chiefly as a thoroughfare, and a place of resort for tramps, loungers, and idlers of the basest sort, so the garden is mostly visited by sight-seers, nursery maids, flirtatious young people, and, at favorable hours, by a few invalids from the vicinity. A pleasure ground, capable of affording abundant room for ten thousand or even twenty thousand people, it is rare to see as many hundred there at a time.

Things that are common and free come to be slightly valued in this country. If our Common and garden were located in a foreign capital, they would be vastly better utilized, and no doubt be one of the regulation sights for traveling Bostonians who do not now visit them once a year. As it is, the sanitary benefits resulting from these wide, open spaces, and the pleasure which they afford to those who do visit them, amply repay all that their maintenance costs.

The Window Garden

AND GREENHOUSE.

THE AGAPANTHUS.

I have in my conservatory, in full bloom, an *Agapanthus umbellatus*, and the plant is so beautiful that I want to describe it for the readers of the AMERICAN GARDEN who love flowers.

My plant I have had about five years. It blooms regularly each year in July or August. It has leaves like those of the Vallota or Amaryllis, only much longer and rather wider. My plant is a thrifty one, and its leaves may be larger than the average. I don't know about that, as I have not seen many plants of this flower, and never one in bloom except my own. Why this is so I am unable to say, as the plant is one of rare beauty and of the easiest culture. It needs only to become known to be popular. The leaves on my plant are about eighteen inches in length, and droop enough to nearly cover the pot in which it grows — one of the largest size, for the roots are many and very stout, and, therefore, require a good deal of room. My plant has two crowns from which the leaves are thrown up. The foliage is evergreen.

The style of growth and the large number of leaves always on the plant, makes it very attractive for a large vase in exposed situations, as on verandas or porches, or for the center of groups, even if it did not bloom. No insect ever troubles it, and the leaves do not turn yellow and fall as those of the Amaryllis do. On the contrary, its crowns are always well supplied with prolific foliage, so that the plant is useful all the year round. I have kept mine over winter in the conservatory, and, also, in the cellar, and I have not seen that it exhibited any preference for either place. It does well when kept warm and wet, and growing, as it does, when in the dark, and given an opportunity to rest, it resembles the Calla in this respect. It can rest if you want it to, or it can get along without it. Mine is potted in ordinary garden soil, and I have not removed it from its pot in four years. Each spring I remove part of the old soil and substitute new. That is all.

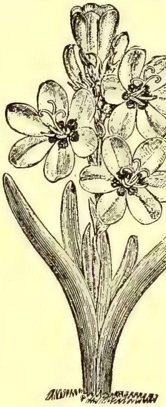
The blossoms are born on stalks about three feet in height. They are small,—about one inch and a half or two inches in length,—shaped like the White Easter Lily. They are borne in clusters of seventy-five or a hundred, each flower having a stem about two inches long. These stems all spring from one common center, at the top of the stalk. The flowers are of a bright lavender blue, with a darker stripe through the center of each thick petal. When in full blossom, there is a bunch of flowers six or seven inches across, forming a ball of bloom; it always attracts attention. Most persons suppose it to be some rare plant. The flowers are quite durable. The plant is in bloom for a month or six weeks, with blossoms in all stages of development. I prefer it to any Amaryllis I have ever grown. It is not as showy, but I consider it more beautiful and much more easily grown.

EBEN E. REXFORD.

IXIAS AND SPARAXIS.

The various species and varieties of these nearly allied genera are among the most beautiful and attractive Cape Bulbs, and for pot culture in the house or window-garden few bulbous plants are more desirable.

Their culture is of the easiest kind. They may be planted at any time during October or November, in a soil composed of equal parts of rich loam, leaf-mold, and sand, placing four or five bulbs in a five-inch pot. Broken potsherds and a few pieces of charcoal should be placed on the bottom of the pots, perfect drainage being of first importance, as any considerable stagnation of water at the roots is fatal to the plants. The bulbs should be covered about an inch deep, and have the soil pressed firmly around them. The pots should then be plunged in coal ashes in a cold frame, or under a bench of a cold-house, and kept moderately dry until the plants appear above ground, when they have to be brought to a light, moderately warm sitting-room or conservatory, watered sparingly at first, and more copiously as they grow and bloom.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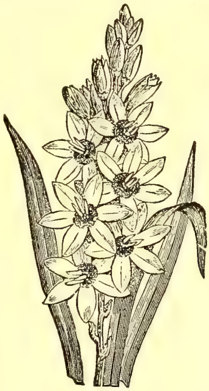
SPARAXIS.

After flowering, water should be withheld, and the pots exposed to full sun, to promote the ripening of the bulbs, which, treated in this manner, will bloom the following season as well as the first.

PLANTS FOR SMALL GREENHOUSES.

We receive frequent inquiries about the kinds of plants best adapted for stocking a small amateur greenhouse. It is not possible to give directions suitable for all conditions, as all classes of plants cannot be grown in the same temperature. Much depends, also, on the situation, exposure, facilities for heating and ventilating, and principally on the amount of time and intelligent care that can be devoted to the management of the house.

For the beginner in plant culture, it is advisable not to invest in many expensive and delicate plants, but to confine himself principally to those of the easiest culture, and the loss of which would not be seriously felt. Apprenticeship has to be served in either way, and it might as well be paid in cheap plants as in expensive ones.

Geraniums, Verbenas, Cupheas, Salvias, Lobelias, Tropæolums, Calceolarias, Cinerarias, and many other soft-wooded plants, that are easily raised from seed or propagated from cuttings, and, of course, any of the various "Dutch Bulbs," should form the main reliance.

To those who desire a greater variety, and choicer plants in addition, the following list, given by Mr. E. S. Rand, Jr., may serve as a guide in selecting a collection for a general greenhouse of about twenty-five feet in length:

12 Camellia Japonica.
4 Orange Trees.
1 Mandarin Orange.
1 Lemon.
6 Daphne odorata.
2 " " rubra.
4 Diosma odorata.
1 " capitata.
4 Erica Caffra alba.
4 " " rubra.
1 Cytisus racemosa.
6 Heliotropes in var.
2 Cestrum aurantiacum.
2 Dwarf Acacias.
1 Lemon Verbena.
1 Burchellia Capensis.
1 Coronilla glauca.
2 Stevia.
2 Eupatorium elegans.
2 Abutilon.
2 Chorizema.
1 Fabiana imbricata.
2 Jasminum odoratissimum.
2 Do. multiflorum.
2 Kennedias.
10 Azalea Indica.
6 Fuchsias.
1 Justicia carnea.
2 Correas.
1 Linum Trigynum.
3 Mahernias.
2 Manettias.
2 Myrtles.
1 Pittosporum Tobira.
1 Sparmannia Africana.
2 Passiflora (for rafters).
1 Olea fragrans.
1 Tecoma Jasminoides.
1 Thea viridis.
1 Veronica Andersonii.
Roses ad libitum.

PETUNIAS AS WINDOW PLANTS.

These make excellent window plants and are very showy, especially the flaked varieties, both single and double. To have them stoutly and short jointed they should be grown out-of-doors, fully exposed to the sun, and be stopped frequently to induce them to form bushy plants. When grown under glass, the stems become drawn, which they likewise do in the green-house while producing their blooms. To obviate this as much as possible, they should be placed in light, airy positions, where they only get a small amount of shade, if any at all. By cutting back any that have become straggling and drawn, and replacing them out in the open air, they soon break again, and flower with great freedom, so that a constant supply may be kept up by growing a few plants, and treating them in this way. While out-of-doors, the pots should be plunged, so as to prevent the sun from drying the roots.—*Gardening Illustrated.*

Foreign Gardening.

THE FERN-GULLY OF MELBOURNE.

Melbourne, the capital of Victoria, possesses a large and beautiful botanic garden, which, under the management of Mr. Guilfoyle, as the *London Garden* informs us, has been so remodeled and beautified that it now ranks among the most scientifically arranged and most picturesquely planted gardens in the world.

Each class of plants is, so far as practicable, grouped by itself. The place devoted to Ferns is a naturally favorable location—a gully of about three hundred feet in length, the average width of the Fern-ground on either side being about fifty feet. A meandering pathway, some nine hundred feet in length, crosses and recrosses the gully every here and there. Along this narrow pathway one passes under the beautiful green fronds of native Tree Ferns, Dicksonia antarctica, Atrophila australis, etc., the trunks of which stand like so many columns on either side. A large number of these and other Tree Ferns of various heights, from one to fifteen feet, many of which are indigenous to New Zealand and Norfolk Island, are planted along the water-course, as well as promiscuously over the whole Fern-ground. On the trunks of the Tree Ferns, and also in the forks and on the stems of most of the large, umbrageous trees which have been placed about in order to provide shade for, and protection from undue exposure of the Ferns, have been fixed hundreds of the Queensland and New South Wales epiphytal Ferns, Platycerium grande and alcicorne (the Elk's-horn and Stag's-horn Ferns), and Asplenium nidus (the Bird's-nest Fern); while all over the gully some thousands of hardy outdoor Ferns, including Lomarias, Aspleniums, Aspidiums, Blechnums, Doodias, Polypodiums, Pteris, etc., have been planted extensively as an undergrowth. A perforated pipe is placed all around the edge of the Fern-ground, by which the place is conveniently watered by the mere turning on of taps. At almost any point along the narrow, meandering pathway, beautiful vistas may be had, while, from either of the large walks which pass across the gully, charming views of Ferns, with glimpses of the lake and rustic bridges in the distance, serve to make some of the most beautiful natural pictures one could desire to look upon.

SWEET PEAS.

Probably no other common flower is so useful in the garden during summer as the Sweet Pea, and it is as indispensable to it as Mignonette. Formerly we had but few varieties; now they have grown into something like thirteen or fourteen, every one of which well deserves a place in the garden.

It is nearly two centuries ago that the Sweet Pea was introduced from Sicily. In all probability the original form has been considerably improved upon, and it has either sported into new forms or yielded them by means of seed. In later years, new varieties have been obtained in this way. Among the plants raised from seed of any one variety, a new departure has been discovered in the case of a plant or two. Those whose practice it is to grow from seeds largely are aware of the tendency in many annuals to break into different characters, and when one appears it is marked, the surrounding plants are pulled out to give the new type space in which to develop itself, and the seed is carefully gathered and sown for another season. Sports of this kind are often very difficult to fix in a permanent character; they will appear for a year or two, or more, and then revert to their original form, to the great disappointment of the cultivator. On the other hand, such sports can be permanently fixed after a few years' selection, and when the durability of the new character is assured the variety can be sold in the ordinary way.

An enormous quantity of Sweet Peas is every year grown for the trade of England. One wholesale house grows, annually, from twenty-five to thirty acres, producing in a good season from eight hundred to one thousand bushels, and several other seed-firms raise similar quantities. The greater part is grown as mixed colors, separate colors being required only in comparatively small quantities.

Of late years, Sweet Peas have come to be much grown for supplying cut blooms for market. A hedge of Sweet Peas of mixed colors is a very pretty sight indeed in any garden, and diffuses a most agreeable fragrance. The Scarlet Invincible, in conjunction with Tropæolum Canariense, is a charming combination,—as delightful as it is novel. A garden without Sweet Peas is a garden without one of the most useful of flowers that can find a place in it.—*R. D., in the Gardener's Chronicle.*

FLOWERS IN MEXICO.

Mexico is the greatest flower-market in the world. All the year round, the gardens bring forth brilliant blossoms—the fragile, beautiful children of this tropic zone. All historians who write of the Mexicans as Mexicans, speak of their love of flowers as one of their principal characteristics. Nor is this trait diminished in the present generation. From the days before the cruel conquest, all through that merciless time, when the Mexicans bore the heavy yoke under their violent masters, the Spaniards, they remained faithful to their love of flowers; the passion is innate.

During even the coldest days that are known in this mild climate, one may go to market and find the simple Indians seated on the sidewalks with their baskets of flowers. I have seen them sitting thus closely together for a whole block, offering at almost ridiculously low prices great bundles of Roses, Heliotropes, Violets, Geraniums, Heartsease, Pinks, and, in short, almost numberless varieties. For twenty-five cents, one may nearly always buy a large, elegantly-arranged bouquet, composed of the most exquisite flowers, the price of which, in New York, would vary, according to the season, from $3 to $5 or $6. In the full flower season one may often buy, for six and a quarter cents, as many flowers as can be disposed of in a parlor of ordinary size. Many of the wild flowers are of exquisite beauty, rivaling the choicest garden plants; in fact, many of them are among our finest greenhouse plants. — *Cor. San Francisco Tribune.*

SOOT AS A MANURE FOR PLANTS.

To strong-growing green-house plants, such as Pelargoniums, Fuchsias, Azaleas, Cytisus, Roses, Chrysanthemums, Solanums, and Hydrangeas, soot is a valuable and easily obtained stimulant. A handful of it, stirred in a three-gallon can of water, has a marvelous effect on all the plants just named, and many others besides. It induces vigorous growth, and adds freshness and substance both to the leaf and flower. It is best to use it in small quantities and often, rather than charge the compost with more carbon than the plants can readily assimilate. In the case of Chrysanthemums and Hydrangeas, I have employed a mixture of soot and fresh manure from the cow-shed, with the best possible results; but, wherever the last-named ingredient is employed, it should be well mixed in a tub or tank and allowed to settle, otherwise the grassy particles remain on the top of the pots, and, while giving them an unsightly appearance, exclude that free aëration which all healthy roots require.—*B., in London Garden.*

SUBSTITUTES FOR GRASS.

Where a great extent of lawn has to be kept in order, if it be furnished with trees and shrubs, as most lawns are, either in the shape of groups or isolated single specimens, the Grass around them often gives a good deal of trouble, and, if neglected, looks rough and untidy. The mowing machine has been the means of saving a large amount of labor; but it must not be drawn too near choice trees and shrubs, the branches of which sweep the ground, or their symmetry will be injured.

I have, therefore, often thought that in such cases some substitute for Grass should have been employed long ago that would not require trimming. The tendency now is to economize labor, and this is one way in which a good deal of it may be saved. Whatever is employed must keep its color and look thrifty; Grass often fails to do this. Even bare earth looks better than dried-up herbage; but that cannot for a moment be thought of, or need be, for there are plenty of low-growing plants that will thrive under bushes.

A host may be found in Sedums and Saxifragas alone. Of the latter, one of the best is the common Moss-Saxifrage (Eve's Pincushion, as it is sometimes called). It is of a far brighter and more beautiful green than Grass, and the little tufty irregularities of growth seem to add to its beauty, and in spring it is covered with myriads of pretty, little, white flowers mounted on slender wire-like stems, about six inches high. Sedum glaucum and Lydium will also do well for such work, as they are very close-growing, require no trimming, and will thrive anywhere.

Nothing excels the common Ivy for forming a green covering under large trees, if watched, and its tendency to climb up the trees counteracted by prompt cutting back. Creeping Jenny grows naturally in the shade. Then, again, how charming it would be to introduce on these carpets of enduring verdure a few Snowdrops or Primroses, or any other little plant one has a fancy for. — *E. H., in Gardening Illustrated.*

BOOKS AND PAMPHLETS RECEIVED.

American Institute, *New York.*—List of premiums to be awarded in the Agricultural and Horticultural Department of the fifty-first exhibition, October 11th to 14th.

Premium Lists.—We have received a large number of Premium Lists of State and County Fairs, several of them accompanied with complimentary tickets. While appreciating the attention, we regret not to be able to make use of all of them.

The Photographic Times and American Photographer, a monthly record of photographic progress, edited by J. Traill Taylor, published by the Scovill Manufacturing Company, New York. A handsome and carefully edited monthly, devoted principally to the photographic art, but containing also much information of interest to artists and scientists in general.

Agricultural Review and Journal of the American Agricultural Association, *New York.*—Among the most valuable articles are: Composition of Grasses, by Clifford Richardson; the Railroad and the Farmer, continued from the previous number; New York Experiment Station; Burr Oaks Farm; American Agriculture, by Gen. Francis A. Walker; Dairying and Dairy Improvements, by J. H. Reall.

The Ladies' Floral Cabinet, *New York,* presents itself this month in an entirely new and improved dress. Its former unwieldy shape is reduced to a neat, convenient size, and the number of its pages has been increased to thirty-two, with an attractive and tasteful cover. The editorial department has likewise undergone marked improvement, more space being devoted to horticultural, and particularly original, matter. The leading article in the present number, "Forcing Lilacs," is of special value. The energy and push which the new management has infused in the "Floral Cabinet" places it in the front rank of horticultural journals.

Outing, a Journal of Recreation, published by *Wm. B. Howland,* Albany, N. Y., at $1 per year. The fifth number of this elegant monthly is before us, and we are happy to learn from the publisher's card contained in it, that it meets with the support it so justly deserves, and that a strong company has been formed for its continuance and improvement. The purport of the journal is somewhat novel, yet its scope and field are universal, limited only by the height of our mountains, the depth of the sea, and the confines of human enterprise and progress. To furnish instruction, and to indicate ways and means how to obtain recreation and recuperation from the effects of either over-work or inanition of body or mind, in their manifold forms and characters, is the principal aim of the publication. Starting from a high moral and intellectual standpoint, it calls to aid every wholesome and effectual means for its achievement. The editorial, as well as the artistic and typographical parts of the paper, are all that the most exacting could wish for, and, with the wide field before it, it can hardly fail to meet with success.

Hand-Book of Practical Landscape Gardening, second edition, enlarged and improved, by *F. R. Elliott;* published by *D. M. Dewey,* Rochester, N. Y. Price $1.50. This elegantly gotten up book is designed to serve as a practical guide to owners of city and suburban residences, for the improvement and decoration of their home-grounds. The entire plan of the work is so practical and accurate, every design being drawn to a scale, and the places for each tree and shrub being indicated by numbers, that even the novice in landscape gardening cannot make mistakes in following any of them. It contains designs for lots and grounds, instructions of how to form lawns, and the care thereof, the building of roads, turfing, protection of, pruning and care of trees, making cuttings, evergreens, hedges, screens, etc. Condensed descriptions of the most desirable trees, shrubs, perennials, and herbaceous plants, with remarks as to soil and position in which they should be grown. The volume is profusely interspersed with illustrations, showing at a glance the object to be attained, and is well adapted to the wants of many country residents.

CATALOGUES RECEIVED.

Arnold Puetz, *Jacksonville, Florida.*—Catalogue of Plants, especially tropical and semitropical, and those native to Florida.

R. G. Chase & Co., *Geneva, N. Y.*—Descriptive Catalogue of Fruit and Ornamental Trees, Ornamental Shrubs, and other Nursery Stock.

J. T. Lovett, *Little Silver, N. J.*—Autumn Catalogue of Small Fruits, Fruit Trees, Ornamental Trees and Plants. A beautiful and artistic colored plate of the "Hansell Raspberry," which is now offered for the first time, accompanies the catalogue.

ANSWERS TO CORRESPONDENTS.

Begonias.—*Mrs. M. R., Carmi, Ill.*—Tuberous rooted Begonias require considerable bottom heat to start them, and at first not too much water, else they will rot. During the flowering season they can stand any amount of water.

Peaches for Alabama.—*E. C. H., Decatur, Ala.*—Alexander, Mountain Rose, Oldmixon Free, Stump the World, Crawford's Early, and Heath Cling, are good varieties for Alabama. The trees may be pruned at any time during winter, until they start to grow again.

Preparing for Flowers Next Year.—*Mrs. A. H., Cresson, Pa.*—It is an excellent plan to prepare flower-beds in the fall. They should be spaded deeply, drained, if wet, and receive a good dressing of decomposed manure. An addition of sand is highly beneficial on heavy soils.

Seeding Meadows.—*T. Co., Stroudsburg, Pa.*—Red Top and Orchard Grass do well on irrigated meadows. Equal parts of each is a good proportion. If the ground is wet during winter it should not be seeded before spring; otherwise, the seed may be sown now. A light sowing of Rye at the same time will prove beneficial in affording winter protection.

Bulbs for the South.—*R. J. W., Eufaula, Ala.*—Hyacinths should be planted about three months before they are desired to bloom. The wet season should be guarded against. They should be planted about six inches apart and four inches deep. The soil should be light, sandy loam, and moderately rich. Narcissus and Tulips may be grown in the same beds.

Forcing Callas.—*Mrs. H. N. H., Keeseville, N. Y.*—Callas should not be forced immediately after planting, but should be kept in a cold pit or cool room until well rooted, before removing to a warmer place. It is best not to use too large pots, and give water only moderately at first. The pots must be well drained, for, although the Calla requires much moisture, it does not flower well with stagnant water at its roots.

Hardy Lilies.—*J. W. V. W., Poughkeepsie, N. Y.*—Nearly all Lilies are natives of cool countries or mountainous regions, and are, therefore, hardy in this latitude; yet a light covering during winter is beneficial to all kinds. L. speciosum, L. auratum, L. candidum, L. umbellatum, L. excelsum, L. longiflorum, L. tigrinum, and others, are of easy culture, and grow in almost any soil. THE AMERICAN GARDEN of October, 1881, contains an excellent article on Lily culture.

Flowers for Perfumery.—*Rosa, Aiken, S. C.*—Dried Rose-leaves or dried flowers of any kind are of no value for perfumery. The perfume has to be extracted from the flowers while they are fresh, else they become worthless, or nearly so. There are two methods chiefly employed in the manufacture of perfumery. The one, practiced with the most delicate perfumes, is to lay the flowers upon, or between layers of clarified fat, until all the odor is absorbed. The other, by distilling the flowers with water. The essential oils rise with the steam, and, after condensation, are easily separated.

MISCELLANEOUS.

Apples in Maine.—There are, says Dr. Hoskins, at least two thousand varieties of Apples in Maine alone, some very good, not known a mile away from where they grow.

The Cuban Queen Water-Melon, writes a correspondent from Georgia is the "Boss." I had all the renowned kinds growing on my place, but the Queen beat them by seven pounds.

The Tallest Tree.—Our Big Trees of California seem to be eclipsed by the Peppermint Trees (*Eucalyptus piperita*) of Australia. Baron F. Von Mueller of Melbourne describes one of the gigantic height of four hundred and eighty feet.

A Long Fence.—A wire fence is now in the course of construction from the Indian Territory, across the entire northern part of Texas, to New Mexico, to keep the herds of northern cattle out. Its entire length will be over two hundred miles.

The Olive Crop.—Statistics show that the value of the fruit is much greater than is generally supposed. The average of the last ten years' production in Italy alone gives an annual yield of forty million gallons of oil, worth as many dollars. The value of Olives used for eating is estimated at ten million dollars, making the value of the entire annual production fifty million dollars.

Prolific Orange-Trees.—Florida papers state that the "Fort Harley Tree" in Alachua County, supposed to be seventy-two years old, has borne 18,000 Oranges in one season; another, in St. John's County, yields 15,000; another, in Bradford County, over 10,000; and a Lemon-tree at Fort Reid, thirty-two years old, has borne over 20,000 Lemons. Half a dozen such trees would be sufficient to make a good-sized family comfortable.

Egyptian Onions.—The *Scientific American* states that there have been imported into New York recently from Egypt ten thousand barrels of Onions. This is said to be the first importation from that region, the gardens of the Bermudas and Portugal having hitherto supplied the deficiencies of our home fields. The Egyptian Onions are said to keep better and longer than those of more western countries, giving them especial value in ship supplies for long voyages.

Pruning Raspberries.—A. B. Allen tells the *Rural New-Yorker* that leaving only three or four canes to grow and bear fruit from Raspberries, Blackberries, Currants, and Gooseberries, may do very well in clay, or quite rich loam, but it does not answer at all for a poor, sandy, or fine, gravelly soil, except in the case of Blackberries, and even these had best be left with half a dozen canes to grow together. With Raspberries, eight to twelve canes to grow up together were found to do well and bear abundantly.

Influence of the Stock upon the Graft.—A great number of instances seem to offer unmistakable evidence that the stock exerts some influence upon the graft, as much, at least, as the condition and quality of the soil affects the plants growing in the same. Prof. Beal says, in this relation: "I have two lots of Red Canadas,—one grown on the top of a Northern Spy and one on Early Harvest. Apples from the latter rot first, and are less brilliant in color. It is now established that the stock and graft more or less effect each other."

Worm-Proof Cabbage.—*C. E. Parnell,* our valued contributor, writes: "In the AMERICAN GARDEN for June, 1882, p. 93, I notice that one of your correspondents remarks that the Early Schweinfurt Cabbage is the only variety that resists the green worm. My experience has been quite the reverse of the above. I have tried many different varieties of Cabbages, and have yet to find one that is worm-proof. The large Early Schweinfurt Cabbage is the largest early variety in cultivation, and is well adapted for fall or summer use; but I would not advise any one to plant it in the expectation of finding it proof against the green Cabbage-worm."

VALUABLE PREMIUMS

To Every Yearly Subscriber to the American Garden for 1883.

The remaining numbers for THIS YEAR FREE to those subscribing now.

Encouraged by the great success of our premiums sent out in previous years, and desirous to introduce the AMERICAN GARDEN into every home, we offer special and most liberal inducements for the coming year.

All articles offered are of actual merit and first-class in every respect. Several of them are now introduced for the first time. Application for premiums should be made at the time of sending the subscription.

All premiums will be sent by mail, prepaid, without additional charge to the subscriber.

EVERY SUBSCRIBER for 1883, old or new, is entitled to ONE PREMIUM, and may take his or her choice of either of the following articles:

SEEDS.

(Practical directions for their culture are given with each package.)

Wild Garden Seeds. This novelty in the flower-garden, extensively introduced by us, has proved so successful, and has given such unanimous satisfaction—enabling any one to have a profusion of flowers all summer without expense—that we continue it on our premium list. Each packet contains a mixture of *one hundred* varieties of flower-seeds, sufficient for sowing a square rod of ground. No one who has not seen a *Wild Garden* can form an idea of its brilliancy and unique beauty.

Bliss's American Wonder Pea. (A sample packet.) The superior merit of this unequaled Pea is now so universally recognized, and its advantages over other varieties are so decided, that no one can afford to cultivate a garden without it.

American Racer Pea. (A sample packet.) Now first offered for sale, is considered the most desirable round Pea. It is very early, productive, and of best quality. Many of those who have received it as a premium this year cannot say enough in its praise.

Subscribers who prefer making their own selection of seeds can select from B. K. Bliss & Sons' Hand Book for the Farm and Garden (34 Barclay Street, New-York. Mailed for six cents), as follows:

For one subscriber, remitting $1.00, may be selected seeds *in packets* to the amount of 20 cents.

For two subscribers, remitting $2.00 *in one order*, may be selected seeds *in packets* to the amount of 50 cents.

For five subscribers, remitting $5.00 *in one order*, may be selected seeds *in packets*, to the amount of $1.50.

For ten subscribers, remitting $10.00 *in one order*, may be selected seeds *in packets*, to the amount of $4.00.

For twenty subscribers, remitting $20.00 *in one order*, may be selected seeds *in packets* to the amount of $10.00.

The subscribers need not be all from the same post-office, as the papers and premiums will be sent separately to each address; but, to be entitled to the clubbing premiums, all must come in *one* order.

PLANTS.

Clematis coccinea. Scarlet Clematis. A root of this magnificent new climber. It is with much pleasure that we offer to our subscribers this peerless novelty, a beautifully colored plate and a description of which appeared in our September number.

One bulb of Gladiolus Shakespeare, the best *white* variety.

One bulb of Gladiolus Isaac Buchanan, the best *yellow* variety.

Three bulbs of selected American *Seedling Gladiolus*, all different colors.

One bulb of either Lilium speciosum rubrum, L. sp. roseum, L. tenuifolium, or L. atrosanguineum grandiflorum.

One bulb of *Hyacinthus candicans*, a beautiful hardy plant, of easy culture.

Any one sending, in addition to his own, *a new subscription*, may select for *his own* premium a bulb of *Lilium Harrisii—the* Lily—the most exquisite novelty in this class.

BOOKS.

Any one subscribing for the *American Garden*, and soliciting other subscriptions, may obtain a *Library free*, under the following conditions:

One subscriber, remitting $1.00, may select from the following books to the amount of 20 cents.

Two subscribers, remitting $2.00, may select books to the amount of 50 cents.

Five subscribers, remitting $5.00, may select books to the amount of $1.50.

Ten subscribers, remitting $10.00, may select books to the amount of $4.00.

Farm and Garden.

Allen's (R. L. & L. F.) New American Farm Book	$2.50
Barry's Fruit Garden	2.50
Brackett's Farm Talk, paper, 50 cents; cloth,	.75
Brill's Farm Gardening and Seed Growing	1.00
Broom-Corn and Brooms, paper	.50
cloth	.75
Buist's Family Kitchen Gardener	1.00
Flax Culture. By seven practical growers	.30
Gregory on Cabbages	.30
Gregory on Carrots, Mangold Wurtzels, etc	.30
Gregory on Onion Raising	.30
Gregory on Squashes	.30
Halsted (B. D.), The Vegetable Garden	.10
Hand-book of the Grasses of Great Britain and America	1.50
Henderson's Gardening for Pleasure	1.50
Henderson's Gardening for Profit	1.50
Hop Culture. By nine experienced cultivators	.30
Johnson's How Crops Feed	2.00
Johnson's How Crops Grow	2.00
Nichol's Chemistry of the Farm and Sea	1.25
Onions—How to Raise them Profitably	.20
Our Farm of Four Acres, paper	.30
cloth	.60
Potato Culture. (Prize Essay)	.25
Quinn's Money in the Garden	1.50
Riley's Potato Pests, paper, 50 cents, cloth	.75
Roe's Play and Profit in my Garden	1.50
Roe's Success with Small Fruits	5.00
Silos and Ensilage	.50
Stewart's Irrigation for the Farm, etc	1.50
Thomas's Farm Implements and Machinery,	1.50
Tobacco Culture. By fourteen experienced cultivators	.25
White's Gardening for the South	2.00

Fruits and Flowers.

American Rose Culturist	.30
American Weeds and Useful Plants	1.75
Breck's New Book of Flowers	1.75
Buist's Flower Garden Directory	1.50
Chorlton's Grape Grower's Guide	.75
Elliott's Hand-book for Fruit Growers, paper	.60
cloth	1.00
Flowers for the Parlor and Garden (Rand)	2.00
Fuller's Grape Culturist.	1.50
Fuller's Illustrated Strawberry Culturist	.20
Fuller's Small Fruit Culturist. (New edition)	1.50
Fulton's Peach Culture	1.50
Galusha (O. B.), Luscious Fruits	.10
Garden Flowers: How to Cultivate (Rand)	2.00
Hardy and Tender Bulbs (Rand)	2 00
Heinrich's Window Flower Garden	.75
Henderson's Practical Floriculture	$1.50
Husmann's American Grape Growing and Wine Making	1.50
Johnson's Winter Greeneries at Home	1.00
Mohr on the Grape Vine	1.00
My Vineyard at Lakeview	1.25
Orchids. Manual of Orchid Culture (Rand)	2.50
Pardee on Strawberry Culture	.75
Parsons on the Rose	1.50
Popular Flowers; How to Cultivate Them (Rand)	1.50
Quinn's Pear Culture for Profit	1.00
Rexford (E. E.), Flowers in Winter	.10
Rexford (E. E.), The Flower Garden, Annuals, etc	.10
Rexford (E. E.), The Flower Garden, Herbaceous Plants, etc	.10
Rivers's Miniature Fruit Garden	1.00
Robinson's Ferns in their Homes and Ours	1.50
White's Cranberry Culture	1.25

Horses.

Dadd's Modern Horse Doctor, 12mo	1.50
Dadd's American Reformed Horse Book	2.50
Herbert's Hints to Horse-keepers	1.75
Miles on the Horse's Foot	.75
Youatt and Spooner on the Horse	1.50

Cattle, Sheep, and Swine.

Allen's (L. F.) American Cattle	2.50
Coburn's Swine Husbandry	1.75
Dadd's American Cattle Doctor, 12mo	1.50
Dadd's American Cattle Doctor, 8vo, cloth	2.50
Guenon on Milch Cows	.75
Harris on the Pig	1.50
Quincy (Hon. Josiah) on Soiling Cattle	1.25
Randall's Fine Wool Sheep Husbandry	1.00
Randall's Practical Shepherd	2.00
Randall's Sheep Husbandry	1.50
Stewart's Shepherd's Manual	1.50
Youatt and Martin on Cattle	1.50
Youatt and Martin on the Hog	1.00
Youatt on Sheep	1.00

Poultry.

Corbett's Poultry Yard and Market, paper	.50
cloth	.75
Geyelin's Poultry-Breeding	1.25
Gray's The Game Fowl	1.50
Lewis's Practical Poultry Book	1.50
Saunders's Domestic Poultry, paper	.40
cloth	.75
Stoddard's An Egg Farm, paper	.50
cloth	.75
The A1 Poultry Book	.10
Wright's Brahma Fowl	2.50
Wright's Practical Poultry-Keeper	2.00

Architecture and Landscape Gardening.

Allen's (L. F.) Rural Architecture	1.50
Atwood's Country and Suburban Houses	1.50
Barn Plans and Out-buildings	1.50
Downing's Landscape Gardening	6.50
Elliott's Practical Landscape Gardening	1.50
Leuchar's How to Build Hot-houses	1.50
Palliser's Model Homes	1.00
Plumbers', Carpenters' and Builders' Guide	1.00
Reed's House Plans for Everybody	1.50
Woodward's Cottages and Farm Houses	1.00
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Woodward's Graperies and Horticultural Buildings	1.00
Woodward's Suburban and Country Houses	1.00

Field Sports and Amusements.

Batty's Taxidermy and Home Decoration	$1.50
Batty's How to Hunt and Trap	1.50
Bogardus's Field, Cover and Trap Shooting	2.00
Canoe and Camera. Square 12mo	1.50
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Hooper's Dog and Gun, paper	.30
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Long's American Wild Fowl Shooting	2.00

Miscellaneous.

American Bird Fancier (Enlarged Edition)	.50
Bement's Rabbit Fancier	.30
Bommer's Method of Making Manures	.25
Book of Household Pets, paper	.50
cloth	.75
Boussingault's Rural Economy	1.60
Caldwell's Agricultural Chemical Analysis	2.00
Canary Birds, paper, 50 cents; cloth	$0.75
Cooked and Cooking Food for Domestic Animals	.20
Cooking Manual (Miss Juliet Corson)	.50
Cooking School Text Book and Housekeepers' Guide (Miss Juliet Corson)	1.25
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Hedges's Sugar Cane and their Products	1.00
Johnston's Agricultural Chemistry	1.75
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King's Bee-keepers' Text Book, cloth	1.00
Quinby's New Bee-keeping	1.50
Rhododendrons. Revised Edition. (Rand)	$1.25
Riley's Locust Plague	1.25
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Waring's Elements of Agriculture	1.00
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Willard's Practical Dairy Husbandry	3.00

If any books are desired, the price of which is more than the amount of the Premium, they may be obtained by remitting the deficiency.

Any books in this list mailed, post-paid, on receipt of price.

THE AMERICAN GARDEN CLUBBING LIST.

To enable our subscribers to obtain other publications at clubbing rates, and to save the trouble and expense of ordering each paper separately, we have made arrangements with the publishers of many leading periodicals which enable us to offer the following at greatly reduced prices.

In the left-hand column is given the publisher's price, in the right-hand column our clubbing price, which includes one year's subscription to the AMERICAN GARDEN.

Subscribers desiring more than one publication in connection with the AMERICAN GARDEN may, for the second and following papers, deduct from the combined our clubbing price, 75 *cents*, for the AMERICAN GARDEN. Thus, the AMERICAN GARDEN and the *New York Tribune*, combined, are $2.00. If *Harper's Monthly* is wanted in addition, add $3.50—being the clubbing price—$4.25, less 75 cents for the AMERICAN GARDEN.

PUBLISHERS' PRICE.			CLUBBING PRICE.
$4.00	Atlantic Monthly, Boston	monthly	$4.25
4.00	Andrews's American Queen, New-York	weekly	4.25
1.00	Andrews's Bazaar, New-York, with picture	monthly	1.65
6.00	Army and Navy Journal, New-York	weekly	6.75
1.50	American Agriculturist, New-York	monthly	2.00
1.00	American Rural Home, Rochester	weekly	1.75
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1.15	Cincinnati Enquirer	weekly	1.85
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1.50	Courier-Journal, Louisville, Ky	weekly	2.10
3.00	Cultivator and Country Gentleman, Albany, N. Y.	weekly	3.25
3.00	Congregationalist, Boston (new only)	weekly	3.50
3.00	Christian Union, New-York	weekly	3.50
2.50	Christian Weekly (illustrated), New-York	weekly	3.00
2.00	Colorado Farmer, Denver	weekly	2.60
4.00	California Farmer (new only)	weekly	4.00
2.00	Demorest's Magazine, New-York	monthly	2.50
2.00	Detroit Free Press	weekly	2.25
.50	Ehrichs's Quarterly, New-York	quarterly	1.25
4.00	Edinburgh Review, London	monthly	4.25
4.00	Forest and Stream, New-York	weekly	4.25
.50	Farm and Home, Springfield, Mass	monthly	1.25
.50	Farm Journal, Philadelphia	monthly	1.15
.50	Farm and Garden, Philadelphia	monthly	1.15
.50	Farm and Fireside, Springfield, Ohio	semi-monthly	1.25
1.50	Farmers' Review, Chicago	weekly	2.10
1.15	Farmers' Union and Tribune, Minneapolis, Minn.	weekly	1.75
4.00	Frank Leslie's Illustrated Newspaper	weekly	4.00
4.00	Frank Leslie's Illustrirte Zeitung (German)	weekly	4.00
4.00	Frank Leslie's Chimney Corner	weekly	4.00
2.50	Frank Leslie's Boys' and Girls' Weekly	weekly	3.00
2.50	Frank Leslie's Lady's Magazine	monthly	3.00
3.00	Frank Leslie's Sunday Magazine	monthly	3.25
3.00	Frank Leslie's Popular Monthly	monthly	3.25
2.00	Godey's Lady's Book, Philadelphia	monthly	2.50
1.00	Gleason's Companion, Boston	monthly	1.50
2.10	Gardeners' Monthly, Philadelphia	monthly	2.65
4.00	Harper's Weekly, New-York	weekly	4.25
1.50	Harper's Young People, New-York	weekly	2.00
4.00	Harper's Bazar, New-York	weekly	4.25
4.00	Harper's Monthly, New-York	monthly	4.25
2.00	Home Journal, New-York	weekly	2.50
1.10	Household, Brattleboro, Vt	monthly	1.75
.50	Home and Farm, Louisville, Ky	semi-monthly	1.25
2.00	Inter-Ocean, Chicago	weekly	2.50
1.35	Indiana Farmer, Indianapolis	weekly	2.00
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1.00	Journal of Agriculture and Farmer, St. Louis.	weekly	1.65
8.00	Littell's Living Age, Boston	weekly	8.25
3.00	Lippincott's Magazine, Philadelphia	monthly	3.25
7.50	London Gardeners' Chronicle	weekly	8.25
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1.00	Maryland Farmer, Baltimore	monthly	1.75
2.00	Methodist, New-York	weekly	2.50
2.00	New-York Tribune, New-York	weekly	2.00
3.00	New-York Tribune, New-York	semi-weekly	3.00
2.50	New-York Times, New-York	weekly	3.15
1.00	New-York Times, New-York	semi-weekly	1.75
1.00	New-York World, New-York (no premium)	weekly	1.80
1.00	New-York Sun, New-York	weekly	1.75
5.00	North American Review, New-York	monthly	5.25
2.15	New England Farmer, Boston (new only)	weekly	2.75
2.00	New England Homestead, Springfield, Mass	weekly	2.50
1.50	Nebraska Farmer, Lincoln, Neb	semi-monthly	2.00
3.15	Observer, New-York (new only)	weekly	3.50
1.50	Ohio Farmer, Cleveland	weekly	2.15
4.00	Our Continent, Philadelphia	weekly	4.25
2.00	Peterson's Magazine, Philadelphia	monthly	2.50
2.25	Phrenological Journal, New-York (with premium),	monthly	2.75
2.00	Phrenological Journal, New-York (without "),	monthly	2.50
5.00	Popular Science Monthly, New-York	monthly	5.25
2.00	Prairie Farmer, Chicago	weekly	2.50
3.00	Pacific Rural Press, San Francisco	weekly	3.50
2.65	Presbyterian, Philadelphia	weekly	3.25
4.00	Quarterly Review, London	quarterly	4.25
2.00	Rural New-Yorker, New-York (and premium)	weekly	2.50
1.50	Rural Nebraska, Omaha (and premium)	semi-monthly	2.00
3.00	St. Nicholas, New-York	monthly	3.50
3.20	Scientific American, New-York.	weekly	3.60
5.00	Scientific American Supplement, New-York	weekly	5.00
7.00	Scientific American and Supplement, New-York	weekly	7.00
2.00	Sunday School Times, Philadelphia	weekly	2.50
1.25	Southern Planter, Richmond, Va	monthly	1.67
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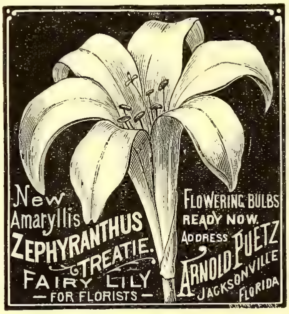

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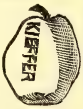

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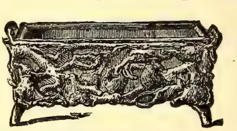

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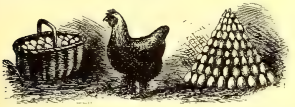

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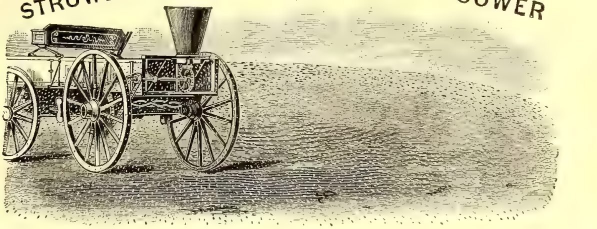

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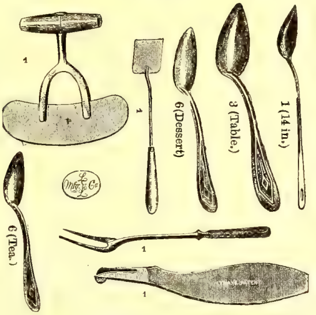

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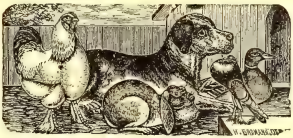

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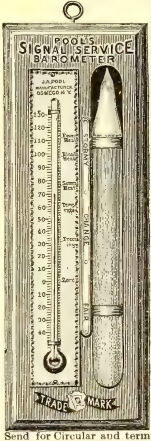

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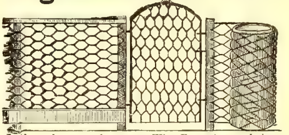

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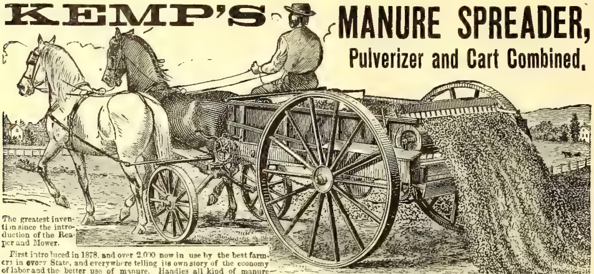

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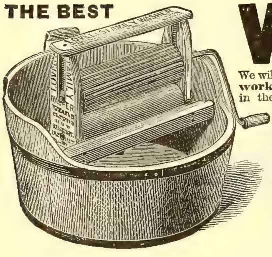

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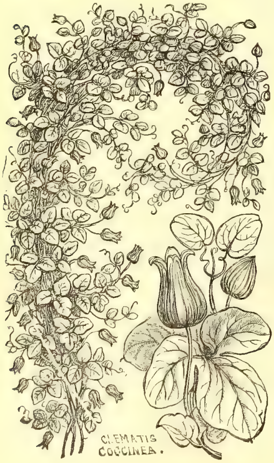
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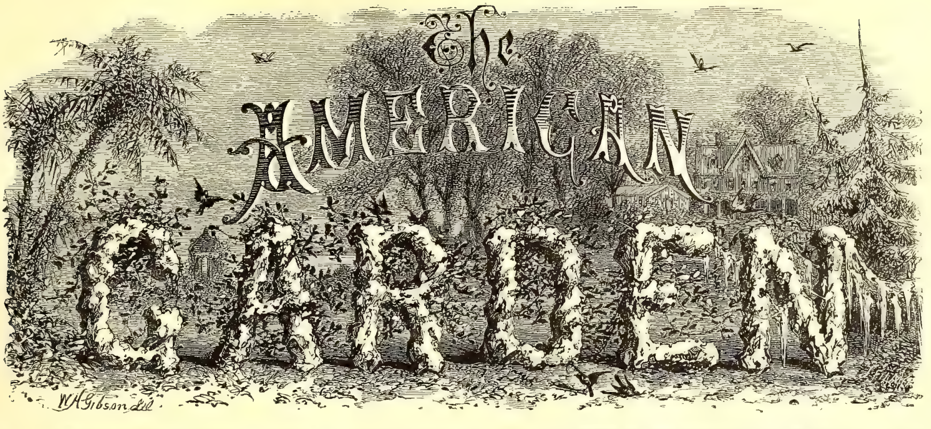

Vol. III. NEW-YORK, NOVEMBER, 1882. No. 11.

The American Garden.

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DR. F. M. HEXAMER, : : : Editor.

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FOR NOVEMBER, 1882.

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IRRIGATION.

This subject, in which a large number of our readers are deeply interested, is constantly assuming greater importance, not only in the far West, where all cultivation depends upon the facilities for obtaining a steady current of water, but also in the Eastern States, where frequent droughts destroy the husbandman's crops and hopes. The day can not be far distant when, through combined efforts in favorably situated localities, the disastrous effects of "dry seasons" will be materially mitigated by judicious systems of irrigation.

It is for these reasons that we have devoted considerable space of this number to the excellent article of Mr. W. E. Pabor, in preference to other matter, and we trust that no one interested in progressive horticulture will fail to give it a careful perusal. We have never read anything that gave so clear and complete an insight into the system and practical workings of irrigation.

FRIENDLY WORDS.

I am very much pleased with your paper and wish it all prosperity.—*T. T. H., Alexander, Minn.*

THE AMERICAN GARDEN is excellent. It should find its way into every household in America.—*B. W. A., Yarmouth, Me.*

I wish to add my testimony to the excellence of your paper; it is the best of its kind I have ever read, and it is always a welcome visitor.—*Mrs. J. F. W., Milford, O.*

The last number of THE AMERICAN GARDEN missed me, please send me a duplicate. It is too valuable to lose a single number and thereby break the volume.—*H. Y. B., Ravenna, O.*

The journal is worth many times more than the subscription price. The hint "don't undertake too much" has been of more value to me than its cost for a year. You have my good will and wishes for success.—*C. K., Wheeling, W. Va.*

I have been a subscriber to your valuable paper for years, and have constantly gained both pleasure and profit from the perusal of its pages. Its gradual progression in *practical utility* is most noticeable and I heartily wish it every success that it so fully merits.—*Mrs. M. L. P., Brooklyn, N. Y.*

The Vegetable Garden.

SEASONABLE HINTS.

Preparation for a good garden next year should be made *now*, and no investment in it will give better returns than the plowing of the ground before it freezes up. By plowing the land in narrow ridges, with deep open furrows between them, so that the surface water can drain off readily, the garden will be in better and earlier working order in spring. The alternate freezings and thawings during winter will loosen and mellow the soil, enabling it to absorb much fertilizing matter that would otherwise be lost, and prepare it for a most favorable seed-bed.

Washing Vegetables.—It is often remarked that vegetables bought in the market or store are not as good when cooked as those from one's own garden, and the only reason for this inferiority is sought generally in their not being so fresh. With Beans, Peas, Corn, and other vegetables borne above ground, want of freshness is certainly the principal cause, but the flavor and sweetness of root-crops is more damaged by washing any considerable time before use than by anything else. Of course, it is not to be supposed that any real gardener would think of such a thing as washing Parsnips, or any other roots, before storing them away in the cellar; but, as we knew at least one "side-walk farmer" who did so, and then wondered why his Parsnips did not keep after all the trouble he had taken with them, it may not be out of place to say: Do not wash vegetables until immediately before preparing them for cooking.

Cabbages do not suffer from light frosts, and should not be pulled before hard freezing weather sets in. The method for keeping Cabbages, usually recommended in books, is to make narrow beds on dry ground, and to place on these the Cabbages upside down, close together. In this state they remain, without covering, as long as the weather is mild. Afterward they are covered with soil, so that only the roots are visible, in which condition they may be left until wanted, adding, perhaps, an additional covering of straw or hay during the coldest weather. Immense quantities are stored in this way by some market gardeners near New York, but for some reason we have never had much success with this method, and, finding it also too laborious, with only a small quantity for family use, have adopted a method which gives entire satisfaction.

About the middle of November, varying according to the state of the season, the Cabbages are pulled, or dug, better, preserving as many roots and as much soil attached as possible, and are placed, *heads up*, closely together in an outhouse, or under a shed, protected from hard frosts, where they remain until severe cold weather sets in. They are then removed to the coolest part of the house-cellar, and planted close together in loose, dry soil, kept there for this purpose. Here they are easily accessible at any time, and keep in perfect condition till spring.

Cauliflower, *Brussels-sprouts*, and similar vegetables, may be kept in the same manner for a long time; the latter especially will continue to produce small heads.

GARDEN EXPERIMENTS.

The results of some of the experiments made at the New York State Experiment Station show conclusively that:

The period required for the *germination of peas* varies with the temperature of the soil; in other words, with the earliness of planting. Those planted on April 4th and 5th required for vegetation from twenty-three to twenty-five days; while others, planted on May 6th, required only from twelve to fourteen days. The earlier plantings were fit for use in seventy-seven days, the later in fifty-four days. The period of ripening the seeds varied from seventy-four to one hundred and nine days.

The Earliest Cabbages, out of a list of twenty-nine sorts, were Early Oxheart and Nonpareil, the latter producing six heads in thirteen plants, while the former produced twenty-three heads out of twenty-seven plants.

The Mayflower Tomato (one of the American Garden Premiums) is considered a very promising variety. Sown in a hot-bed April 7th, it vegetated April 12th, was transplanted into the garden May 29th, blossomed on June 16th, and furnished ripe fruit August 8th, two days before the Early Acme. These fruits measured three inches in diameter, somewhat larger than the Acme, and were nearly or quite as smooth. The plants were very prolific.

Potatoes raised from eyes cut large yielded more and were of better quality than those from eyes cut shallow. Single eyes cut deep yielded one hundred and fifty-two bushels; ordinary cuts yielded one hundred and twenty-seven bushels; and whole Potatoes yielded eighty-three bushels of merchantable Potatoes per acre.

PEPPERMINT.

An out-of-the-way bush in some neglected corner of the garden furnishes usually sufficient Mint for flavoring of the few dishes for which it is used. The commercial value of Peppermint, however, for the distillation of its oil, is much greater than is generally supposed. Many hundred thousands of dollars' worth of Peppermint oil is exported annually, and its production forms a leading farm-crop in some sections of our country.

The plant thrives best in moist ground; a half-drained swamp, or moist bottom-lands, with deep, mucky soil, are best adapted for its growth. After plowing and dragging thoroughly, the land is marked out with a small plow, as straight as possible, making the furrows twenty inches or two feet apart, and from three to four inches deep. The roots which have been dug previously and pulled apart are then strewn along these furrows, so that they form nearly a continuous line. This work is generally done by boys, a man following and covering the roots with a hoe.

Mint is usually planted in early spring; but, where water does not stand on the land all winter, it may be planted during autumn as well. As soon as the shoots appear above ground, the plants are carefully hoed, and all weeds and grass thoroughly eradicated. The horse cultivator is afterward passed between the rows, followed by hand-hoeing, two or three times during the season, until the latter part of summer, when the plants will have covered the entire ground.

The crop is harvested by mowing all close to the ground when the plants are in bloom. It is then dried and distilled. During the two following years, which is about as long as Mint fields are kept without replanting, no cultivation whatever is given.

To obtain the oil, steam is passed through the herb in tight tubs. The steam extracts the oil, which is afterward condensed by cooling.

REDUCING BONES.

Manure is the life of gardening, and no one need expect to succeed without applying yearly a good coat of manure. Stable manure is best, but cannot be procured at all times in sufficient quantity, and it is important to turn everything into manure that can be made available.

Being situated so that I could not get much manure, I had all the bones that accumulated about the house collected and stored in barrels. In the fall and winter, when beeves and hogs are killed, is the time to save bones. When cold weather set in, and we had large fires, ashes were put in alternate layers with the bones—the bulk of ashes were three times as large as the bones. This was kept moist with soap-suds and chamber lye, and when the barrels were dumped next spring all the bones were found soft and powdery.

The process, though sure, was too slow, and as I did not have ashes early enough in sufficient quantities to reduce bones last fall, I stored away all the bones I could get in barrels, and in the spring, when I had plenty of strong ashes, I boiled them in lye. The ashes were put in a hopper made of boards, standing in a trough and flared at the top, making it like an inverted house-top. The ashes were firmed down, first putting straw or husk at the bottom; water was poured on these ashes until a sufficient quantity of lye was obtained. A kettle was filled with bones, lye poured in until full, and kept boiling until the bones were boiled to dust. This is a slow way of getting manure, but it costs nothing but labor where one burns wood.

In the last kettleful I boiled the lye was rather weak, and did not reduce the bones entirely, but softened them so that chickens could eat them. This kettle was stored in the poultry house, and by midsummer the hens had eaten the bones all up, in consequence of which I had eggs when my neighbors had none. Thos. D. Baird.

CLEANING ONION SEED.

In answer to several inquiries about this subject, J. H. H. gives, in the *Country Gentleman*, the following directions:

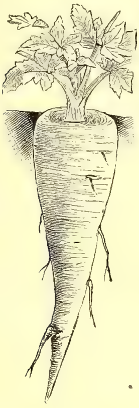
"To thresh Onion seed clean, it must be very dry. Put it out in the sun on canvas sheets until it crumbles easily in the hand; then thresh with an ordinary flail; run through the fanning-mill slowly on suitable sieves, then take the seed and pour it into a barrel or tub of water, stirring it slowly, so that all the good seeds sink. Let it settle, and then pour off the water and light seeds; drain the water out of what seed is in the barrel as soon as possible, and spread out thin on sheets to dry, stirring it frequently. It should be done on a clear day, as it is liable to sprout. By this method nothing but the best quality of seed is secured."

PARSNIPS.

One of the greatest pleasures the proprietor of a garden has is the satisfaction of knowing that he has at his command an abundant and varied supply of vegetables at all seasons of the year. In the summer he has an extensive list to choose from, but in the winter and early spring months his choice is confined to a limited number of varieties, and on this account these crops should be of the very first quality. To obtain this desired object it is absolutely necessary to give the crops, during their season of growth, every essential attention.

The Parsnip is one of the most desirable, as well as most wholesome, of winter and spring vegetables, and should be cultivated in all gardens, however small. It flourishes best, and produces the largest, longest, and smoothest roots when grown quickly, in a very rich, deep soil, for, if fresh manure is given, the roots will become forked; or, if the seeds are sown in a shallow or poor soil, the roots will be of small size, tough, forked, and almost worthless.

The best and easiest method of obtaining a satisfactory crop is to prepare the ground thoroughly the previous season. This should be done by plowing or digging the ground very deep, and at the same time working in an abundance of well decomposed stable manure, in which a quantity of bone-dust has been mixed. If at all possible, let the ground be thrown up in ridges throughout the winter, and as soon as the ground is in working condition in the spring, a good sprinkling of guano should be given, the ground neatly leveled, and the seed sown in drills from eighteen inches to two feet apart. The seed should be covered to the depth of three-quarters of an inch, and as soon as the young plants are from three to four inches in height they should be thinned out to a distance of six or eight inches apart. All the care and attention they require after this is to be well cultivated and kept free from weeds at all times.

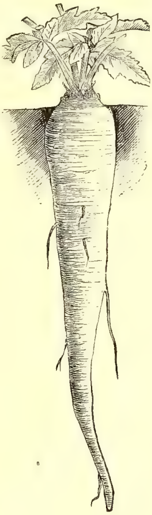


STUDENT PARSNIP.

The roots are perfectly hardy, and are very much improved by leaving them in the ground during the winter, care being taken to bring enough in the cellar to last during the cold weather. The roots require to be covered with sand when placed in the cellar, thus preventing them from becoming dry. One ounce of seed will sow about one hundred and fifty feet of row, and, as the seed is thin and scale-like, it will not retain its vitality for over a year. The most desirable varieties are:

Early Short Round French, a very early variety, of small size, round shape, and delicate flavor.

Long Smooth, or *Hollow Crown*, has long, smooth roots, both tender and sugary; the tops are small, and tinged with red at the crown, which rises from the center with a slight depression.



LONG SMOOTH PARSNIP

The Student is a new variety, of delicious flavor, the roots being of very regular form, with white, smooth skin. This is the best variety for general cultivation.

In attempting the cultivation of Parsnips it is well to remember the fact that the seeds vegetate slowly, and on this account they should be sown as early in the spring as possible. CHAS. E. PARNELL.

AUTUMN WORK IN THE GARDEN.

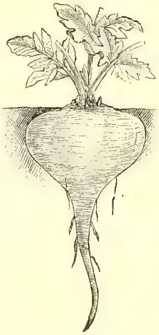
I have observed, while journeying about the country, that most farmers and country residents who are the proprietors of gardens are accustomed to neglect many important operations in the garden during the autumnal months. During the spring and forepart of summer they will put forth vigorous efforts to exterminate all weeds and grass; but after crop-plants have become so large that they require no further cultivation, gardens are abandoned to the undisturbed growth of weeds and grass, most of which will mature a bountiful crop of the choicest seed, which adds greatly to the expense of cultivation another year. Most weeds are so hardy that they will continue to grow and produce seed until their growth is retarded and stopped by cold weather; and some varieties of grass, especially certain perennials, such as Kentucky Blue Grass, Rhode Island Bent, and some others which, spreading rapidly by the roots, will continue to grow and spread until the ground freezes up tight. The moist and mellow condition of the soil in autumn greatly favors the germination of seeds of certain weeds, and the growth and spreading over a larger area. It sometimes seems as if weeds understand that their period of life is amazingly brief, and that every day and night must be improved. Hence, every root, stem, and leaf does its very best to mature as much seed as possible.

Now, the vigilant gardener, looking forward to the labors of the next season, is careful to nip all such work-producing intruders in the bud, by collecting root and branch into heaps before the seed is matured. Every few days some one should go over the garden and pull up every bunch of grass and every weed, and cast them on the pile where all the accumulations will not fail to die and decay. The garden, during all the months of autumn, should be as clean and free from weeds and grass as through the vernal and summer months. If a gardener will be scrupulously careful to manage his garden in the foregoing manner for several seasons, very few weeds will appear, at any time during the growing season, to disfigure the ground, and thus increase manual labor.

If weeds have been allowed to go to seed, they should be collected when they are wet, so that the seed will not fall from the pods, or panicles, when the stems are being handled. The seeds of most weeds retain their vitality for many years; consequently, the only true way to exterminate troublesome intruders from the soil is to allow none to mature their seed. By adopting this practice, all the seeds remaining in the soil will germinate, when the tops can readily be destroyed. When one finds an hour or two of leisure, let that time be appropriated to this important work in the garden. One can find, almost always, lots of grass to root up or weeds to collect, thus accomplishing two equally desirable objects—the increase of the manure heap and the decrease of the weed crop. Let this maxim be kept in mind, at all times and seasons of the year, that

> "One year's seeding
> Makes seven years' weeding."

S. E. T.



SHORT ROUND FRENCH PARSNIP.

The Fruit Garden.

SEASONABLE HINTS.

Strawberries.—Do not kill your plants by kindness, in covering them before the proper time! The object of mulching Strawberry plants during winter is to keep the frost in the ground. Therefore, covering before the ground is frozen cannot possibly produce the desired effect, and must, to the contrary, result into exactly the opposite, that is, in keeping the frost out. In northern regions, where the ground is covered with snow for the greater part of winter, plants keep usually better than in warmer latitudes, where they become exposed to the frequent changes of freezing and thawing. The last week in November is early enough, and in many seasons it may safely be deferred till the middle of December. There is less danger in leaving plants uncovered all winter than in covering them too soon.

Protecting Grape-Vines.—All varieties not thoroughly hardy should receive some winter protection to secure best results, and it is claimed by many that it pays to give protection to the hardiest kinds even. Some growers attribute their success with Delaware, Duchess, Roger's Hybrids, etc., simply to covering, while their neighbors as signally fail with the same varieties. As the treatment in both cases is exactly alike, the different results can only be attributed to the protection given in the one case and its omission in the other.

The process is simple, and depends on the extent of the operation. After the vines have shed their leaves and matured their wood, they should be pruned, and, on the approach of cold weather, loosened from the trellis, bent down on the ground, and held there with stakes, rails, or something similar. This is sometimes found sufficient, especially where snow lies till late in spring. If not satisfied with this dependence, a slight covering of leaves, straw, corn-stalks, limbs of evergreens, will prove effectual. If danger is to be apprehended from the depredations of mice, which in some sections are very troublesome, a slight covering of earth on the tops is all that is necessary. It should be remembered that it is the *young* wood of the present season's growth that is to be protected, as this contains the buds in which are the embryo fruit cluster for next year's crop. Of course, similar protection would not hurt the old wood, but it is not always feasible to provide it.

But the main condition necessarily preceding all this, on which depends the success or entire failure of the whole operation, is the maturity and thorough ripening of the wood. We saw a case in point, where an expert was called in to do the work, to be sure that it was properly performed, and this spring when the vines were lifted a large proportion (about seventy-five per cent.) had lost every fruit-bud, and were making new tops from the trunks. Such failures can be accounted for only on the supposition that the wood was not thoroughly ripe, a condition which we cannot always determine with absolute certainty. To secure ripe wood, we should endeavor to prevent late growth, by pruning or otherwise checking it so as to induce early maturity.

THE BAG OR BASKET WORM.

One of the most peculiar and destructive of our injurious insects is the Bag Worm, and, as it is getting to be a wide-spread and serious pest, a knowledge of its habits should be known by all. To begin at the beginning, it may be taken as a fact that many persons have seen strange cocoons, or cocoon-like bodies, about two inches long and somewhat spindle-shaped, suspended by the larger end to the naked branches of trees and shrubs during the winter season. An examination of these cocoons will show that, besides the remains of an old insect, they contain a number of eggs. These eggs hatch in early summer, producing small caterpillars. The "worms" leave the old case and begin their destructive work of feeding upon the leaves of various plants. The caterpillar soon fixes itself upon a leaf by its fore legs, throws its body in an upright position, and begins to spin a cocoon or silken case for itself, and finally covers it with bits of leaves, etc. As the "worm" continues to grow, the case or covering is increased in size and thickness, so that in a short time the insect no longer holds its body upright, but lets it hang down, while holding to and moving along upon the support by means of the fore legs, which, with the head, extend outside of the casing. The whole feeding or destructive state of this bag worm is spent with its body thus covered. Wherever the "worm" goes on its foraging expeditions the bag goes with it; and at the slightest indication of danger the exposed portion of the insect is quickly withdrawn within the mouth of the bag.

The use of the protective coat which the bag worm spins for itself is quite obvious. Birds are natural enemies to insects, and by means of this silken coat, covered with various leaves and small sticks, the inclosed "worm" is enabled to go about its work without attracting attention, and when seen by the birds it is no tempting morsel before their watchful eyes. This is not the only example of a provision for self-protection among the insect tribes.

When the "worm" finishes its feeding, it fastens its case to some twig, but not to a leaf or its stalk—that would fall!—and it passes into the inactive or pupa state, and afterward becomes a moth. It is stated by those who have watched the development of the bag-worm in all its stages, that the male moth leaves the cocoon, while the female does not—she laying her eggs within it, and afterward dying there. This completes the round or cycle in the life of the bag-worm, namely: The eggs are carried through the winter, within the very noticeable "bags" which are hung upon the branches of various trees and shrubs. The eggs hatch in early summer, and the "worms" begin their destructive feeding, at the same time spinning for themselves a protecting bag or cocoon, which they carry with them through all their changes from place to place.

The bag worms are not very limited in their diet, and they sometimes come in such numbers as to entirely strip the shrubs in a few days—if not in a few hours. The application of any poison has not proved of much effect. The only remedy is to remove the "worms" by hand-picking; when they are numerous, and the field for their destructive labor is great, this is a large piece of work. It would be a very wise preventive of destruction to remove and destroy all the cocoons in winter, thus killing the pests in the egg state.

It may be interesting to some to see the name under which the bag or basket-worm is known to science—here it is: *Thyridopterys ephemeræformis.* If long names could kill noxious insects, we should certainly have no cause to complain of this one.

DR. B. D. HALSTED.

REMOVING DEAD BRANCHES.

There has always been considerable diversity of opinion among orchardists whether it is best for the general condition of a tree to remove dead or dying branches at once, or to leave them until entirely dry. Each system had its advocates. Recent experiments, especially those of Professor C. E. Bessey, of the Iowa Agricultural College, communicated to the *New York Tribune*, throw entirely new light on this question, the conclusions of which are of great importance to every fruit-grower, and may change materially the customary modes and seasons of pruning trees and shrubs.

The Professor says: "Evaporation of water from plants was long supposed to be a physiological process, and was considered to be entirely different from ordinary physical evaporation. As long as this view was held the process was called transpiration, to distinguish it from the physical process. The breathing-pores, the stomata, which occur in the epidermis of all leaves in great numbers, were supposed to be organs of transpiration, which was considered to be one of the most important functions of the leaf.

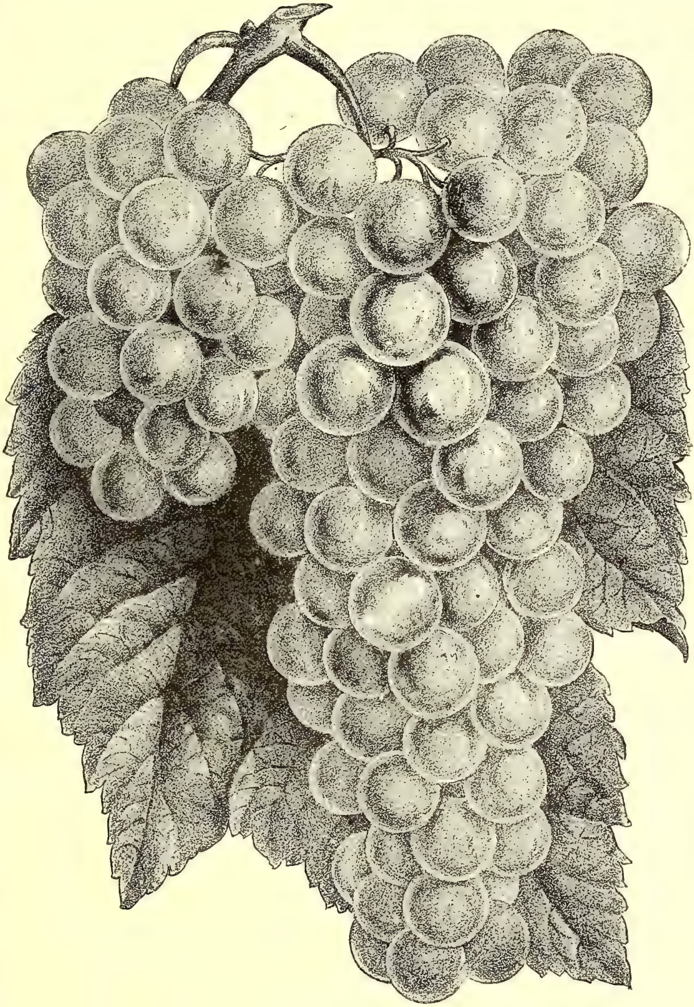
"Within a few years, however, our knowledge of these matters has been greatly increased, and we now know that the escape of water from the leaf does not differ in any way from the evaporation of water from any other moist surface. A leaf loses water simply because it is a watery structure; its epidermis is designed to prevent this loss, and the breathing-pores, with their power of opening and closing, are for the same purpose. A leaf, instead of being an organ of evaporation, is actually a structure in which evaporation is quite successfully checked.

"Careful experiments made under my supervision, in the Iowa Agricultural College, in 1880, by Miss Ida Twitchell, a graduate student, demonstrated that the evaporation from a moist piece of dead wood was exactly like that from a living leaf. Now, when a dead branch is large enough to keep continually moist in the interior it will in dry air constantly lose water by evaporation from its surface. This water so lost is taken from the tree, and must have been supplied directly or indirectly by the living portions. Moreover, it must be remembered that a living branch is well protected against loss of water through evaporation, by the epidermis which covers all its surface when young, or the impervious corky bark which is always found on it when older. When a branch dies, these protecting devices soon fall into decay, and the water, so carefully guarded by the living parts of the plant, is wasted by evaporation."

THE DUCHESS GRAPE.

This new White Grape, originated by A. J. Caywood, has now been on public trial for three seasons, having been first introduced in the spring of 1880. The vine is claimed to be of purely native origin, the mother being a white unnamed Concord seedling fertilized by Delaware. While not disputing this claim, there are those who think the foliage and general characteristics of the fruit and vine present unmistakable evidence of foreign blood through some of its ancestors.

The vine is of very vigorous growth and fruits abundantly. The size of berry and bunch ordinarily average a little larger than well-grown Delawares. To obtain fine clusters, like the illustration, severe thinning of the fruit is necessary. The vines, though wintering perfectly on the originator's grounds, are not as thoroughly hardy in less favored localities, and should receive some winter protection. As in all but the "iron-clad," purely native varieties, the fruit and foliage are subject to mildew and rot, and precautionary measures should be employed to insure success with it in our variable climate. Inclosing the clusters, as soon as the fruit is fairly set, in paper bags, will prevent the rot, though Mr. A. Caywood thinks that this favors the cracking of the berries — the only clusters affected in this way were bagged, while the exposed clusters alongside were entirely exempt. This appeared to be the case on his grounds, but on my own vines I could see no difference in splitting either in or out of the bags.



THE DUCHESS GRAPE.

Dusting the vines with sulphur is, I believe, the only remedy used to prevent mildew, though I have never applied any to my vines, preferring to test them under such treatment as vines ordinarily receive; but I am satisfied that in such seasons as this has been, precautionary or preventive measures are absolutely necessary to succeed satisfactorily with our finer varieties.

In quality, the Duchess, when fully ripe, approaches some of the foreign varieties. I have not been able to recognize this quality so fully till recently, from the fact that previous trials have been confined to grapes not fully ripe. That they are *eatable* at the Concord season is true, but the claim that they *ripen* together will hardly be sustained by the evidence. At this date, October 7th, most of my Duchess may be considered *fully ripe*, while Concords are past that point two weeks at least.

The berries of the Duchess appear to grow much slower during the early stage than other varieties, and develop more rapidly toward the period of ripening. This has tended to disappointment, and may be due in a measure to the early drought of the past two peculiar seasons.

Notwithstanding these apparent defects in the Duchess (and they will apply to most of our finer varieties), its surpassing excellence, when in perfection, is sufficient inducement to those who relish a really fine fruit to take extra care and pains to prevent them.

Mr. Caywood attributes the cause of failure with the Duchess "to be due mainly to excessive fertilizing after the vines were planted. If planted in good ground, little or no fertilizer, except bone, wood-ashes, etc., should be applied. If forced too much, late growth, unripe wood, and consequent winter-killing, is the result." Be this as it may, a recent tour of observation among the vineyards of Ulster and Duchess counties, New-York, where we saw finer Duchess than on Mr. Caywood's grounds even, convinced us of the importance of protecting the vines in winter.

Another important and interesting feature is the method of grafting the Duchess and other tender sorts on hardier varieties. It is now extensively practiced by those grape-growers visited, and their experience indicates that it is favorable to increased healthfulness and productiveness. The exhibits shown us certainly seemed to confirm the correctness of the theory that the graft does partake of the stock, which imparts an influence that is seen and felt. This evidence was not confined to the Duchess, but Allen's Hybrid, Rebecca, Walter, Delaware, Montgomery, and others all seemed to confirm these convictions. It may safely be predicted that grafting of tender varieties will be a source of much experiment and observation among grape-growers for the next few years.

E. Williams.

The Flower Garden.

BRAMBLE.

Red tints of autumn touch the trees
That rustle in the freshened breeze,
And wave their branches strong;
From hillside meadows loud and clear
Comes clarion-like, a note of cheer—
The thrush's thrilling song.

The busy wild-bee flitteth by,
Where Honeysuckle waves on high,
And late Clematis grows;
A fair brown butterfly floats round
A bramble branch that on the ground
Its dainty tangle throws;

The lowly bramble taking root
In common hedgerows, bearing fruit
For common hands to pull;
A boon to travelers on the road,
It shows its gracious purple load.
With blossoms beautiful.

White flowers like pearly tinted snow,
Fair foliage red with autumn's glow,
Ripe fruit—on one fair spray;
Ah me! my heart, what beauty lives
In lowliest things that nature gives
To blossom in our way.

Ah me! my heart, what beauty shows
In lowly lives that to their close
Bloom sweetly out of sight;
Meek hearts that seek not worldly praise,
That find in life's secluded ways,
Deep love and deep delight.

Fair lives that have a humble root,
Sweet lives that bear a gracious fruit,
Yet keep their spring-time flowers
Upon the bough where fruit hangs ripe,
And where the fading leaf is type
Of life's decaying hours.

We meet them in our daily path,
These humble souls, and each one hath
A beauty of its own;
A beauty born of duty done,
Of silent victories humbly won,
Of sorrows borne alone.

And when the frosts of death fall chill
On these fair lives that blossom still,
Though summer time is past,
We, sighing, wish for quiet ways,
Wherein, like theirs, our shortening days
Might blossom to the last.

—*All the Year Round.*

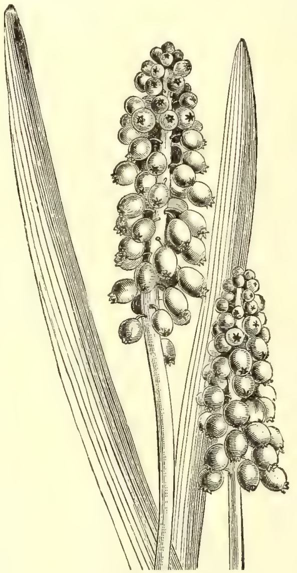
SEASONABLE HINTS.

Wintering Tender Plants.—Many of our floral pets which, just when in their greatest splendor, are cut down by relentless frosts, might often be saved with but little trouble. Geraniums, Fuchsias, Lantanas, Roses, and nearly all the plants grown in cool greenhouses, may be wintered in an ordinary cellar. Cellars with furnaces or heaters are generally too warm for such plants, but, by partitioning off a small part with a window facing the south or east, an excellent plant-room may be provided with but little expense.

The principal object to be held in view is that the plants are to be kept dormant during winter, as far as possible, not growing. The temperature should, therefore, be but little higher than to keep frost out, and air should be given whenever the weather permits. Water has to be given but very sparingly, enough only to save the plants from shriveling; dead branches should be cut off, and decaying leaves, and everything that produces dampness and mold should be scrupulously removed.

GRAPE HYACINTHS.

These pretty plants are, botanically, *Muscari;* popularly known by the name we head our article, from one of the species whose botanical name, *M. botryoides,* has the same significance, and is derived from the flowers, which resemble little bunches of Grapes. The popular name of "Baby's Breath" is from the fragrance of the flowers of some species. The bulbs of all are small, and the plants are of easy culture. They require only to be planted in the flower-borders in the autumn, need no winter protection, for they are perfectly hardy, and may remain undisturbed for years. They will increase rapidly from off-sets, will soon form large clumps, and will come up and give a profusion of flowers every spring. All are dwarf-plants, and their situation should be in the front of the flower-border. They force well, and a few pots filled with bulbs will bloom freely in the parlor-window in March. As the flowers last long in perfection, they should be oftener grown in this way. It is only necessary to pot the bulbs six to eight in a six-inch pot in the autumn. Place the pots in a cellar or frame until the bulbs have made roots, and then bring them to the light.


THE GRAPE HYACINTH.

There are many species, of which the best known is *M. botryoides,* with dark-blue flowers, of which there are varieties with pure white, pearl-colored, and almost black flowers, and also one with a pinkish shade, which is very rare. *M. racemosum* has porcelain blue flowers, and is very handsome.

Other species of the same family do not resemble these we have mentioned in flowers, but do well with the same culture. *M. moschatum,* a native of Turkey, is the well-known Musk Hyacinth. The flowers have a strong odor of musk; they are purple when they expand, but gradually become yellowish. *M. macrocarpum* is a larger and more showy plant, commonly called the great Musk Hyacinth. It is easily known by its large size and brilliant flowers.

M. comosum is the Tufted Hyacinth—Grape Hyacinth; but the species is rarely seen in cultivation, being supplanted by its two varieties,—*monstrosum* and *plumosum,*—called the "feathered" and "plumed" Hyacinth. These varieties produce very large heads of blue flowers, of singular shape, which are very showy. These plants all merit special attention, and, as they occupy little space, the smallest garden can afford room for a full collection. They are also very cheap, costing about a dollar a dozen, or even less for *M. botryoides.* They are especially adapted for children's gardens, and their association with the return of spring will prove a pleasant memory in after-life.

E. S. RAND, JR.

AUTUMN FLOWERS.

Dahlias.—For many years there has not been a more favorable season for these beautiful late bloomers than the present one. A field of four acres, which we have watched with great pleasure and interest during summer, is at this moment—near the end of October—in full bloom, and from a distance of a few hundred feet looks like an immense Brussels carpet of elaborate design and most gorgeous colors.

The *Single Dahlias* have more than fulfilled expectations. There is nothing more brilliant in color than the maroon and velvety purple Paragon, the deep scarlet Ardens, the deep gold colored Yellow Gem, and nothing more chaste than the new Queen of Whites, with its pure white flowers of four inches in diameter. All of these will, no doubt, become very popular.

Cactus Dahlias.—These form an entirely distinct strain, and are specially valuable for vases or corsage bouquets. D. Juarezii is very beautiful and distinct, and was the first of this class, but some newer seedlings of rich, pure scarlet, and maroon crimson, are still more beautiful.

Chrysanthemums.—The conditions of the season and weather, which have been so propitious to Dahlias, have also proved highly favorable to Chrysanthemums, which require but another week free from frost to develop their perfect glory.

Coreopsis lanceolata.—This is a charming plant, which ought to be better known and more frequently found in flower gardens. Its rich golden yellow flowers are unsurpassed in brilliancy. By referring to our note-book we find that it commenced to blossom on June 16th. Since then the same plant has never been without flowers for a single day, and has now ten flowers and twenty buds.

JOHN THORPE.

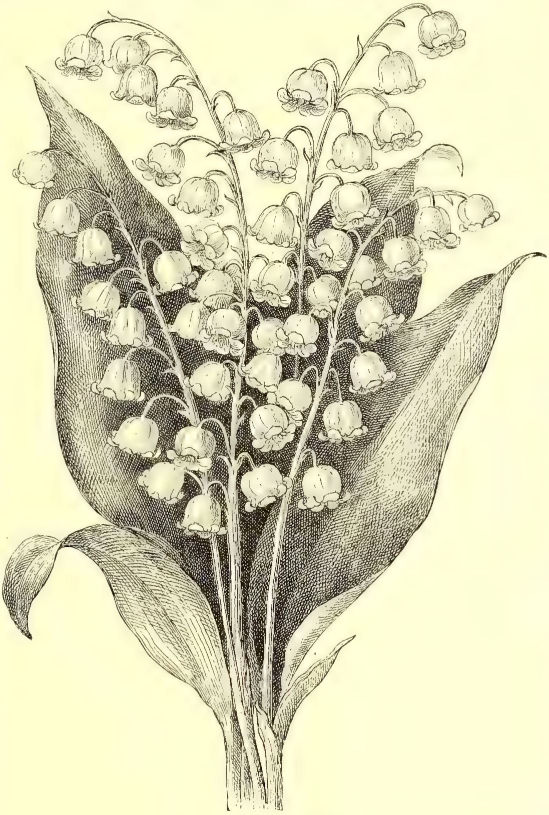
SUMMER FLOWERING BULBS.

All tender bulbs, if not already taken up, should be lifted at once, dried, and stored. Gladiolus, if planted deep enough, are not injured by light frosts, but Tuberoses, Tigridias, Amaryllis, Dahlias, Colocasias, should not be exposed to more frost than can be avoided. Gladiolus, after drying, may be kept in an ordinary frost-proof cellar, but Tuberoses, Tigridias, and other tender bulbs need more warmth to preserve them in good condition till next planting-time.

THE LILY OF THE VALLEY.

Convallaria majalis.

Since fashion has decreed that this long neglected, charming little spring flower, with its snowy, fragrance-spreading bells—"May-bells," as the Germans call them—shall be fashionable, an enormous impetus has been given to its cultivation. But this perfect emblem of purity and modesty of the floral world did not require the dictates of fashion to be held as a treasure by all true lovers of flowers since time immemorial, although to many a florist it may have brought, according to the language of flowers, a true "retour du bonheur."



THE LILY OF THE VALLEY.

The Lily of the Valley grows wild throughout Europe, in rich, damp woods, under the shade of deciduous trees. It succeeds splendidly in cultivation, if conditions similar to those under which it grows naturally are provided, and its roots are not disturbed for several years.

In making new beds a partly-shaded situation should be selected, where the ground is not traversed by the roots of growing trees. Unless the soil is naturally rich and deep, it should be dug thoroughly to a depth of at least twelve inches, working in at the same time a good quantity of decomposed manure, and if very heavy, some sand and leaf-mold should be added. If old clumps are at hand, these should be divided before replanting; the roots sold in seed stores are generally already divided into single crowns or "pips," which is the technical name for them. These are usually set out in rows, about twelve inches apart and six inches in the rows. The crowns should be about two inches below the surface of the ground. They may be planted now or in the spring, but most growers are in favor of fall planting, as at this season better plants may be obtained. When the ground freezes, a light coat of decayed manure and some mulching material should be scattered over the bed. During the first summer the rows should be hoed and kept free from weeds; afterward the plants will take possession of the entire ground.

Forcing Lilies of the Valley forms an important branch of floriculture near our large cities, and this art has reached so high a state of perfection that flower-spikes are now seen in florists' windows throughout the entire year. The roots used for forcing are nearly all imported from Germany, where immense quantities are grown at small cost. As soon as the "pips" arrive, which is during the month of November, they are placed closely together in shallow boxes, which are kept in cold frames, where they can be protected against severe freezing. After about four weeks those wanted for earliest blooming are removed to a forcing-house with a temperature of about 50 degrees, which is gradually increased to 80 degrees.

For window and parlor culture Lilies of the Valley may be forced as easily as any plants. The "pips" should be planted in pots at any time during November, six to eight to a five or six-inch pot. Ordinary potting soil should be used, and pressed firmly around the crowns, which should stand slightly above the surface. The pots have to be kept out-doors for a month or more, plunged in sand, and sufficiently protected to prevent their breaking by frost, although the plants themselves are rather benefited by being exposed to freezing weather, provided their crowns are covered with moss. About a month before they are expected to bloom they should be brought to a warm room, and gradually watered more copiously, as they grow.

The method of forcing Lilies of the Valley practiced by German florists is to plant the single crowns in a well-closed bed of pure silver sand or finely crushed coke, in a propagating-house which can well and easily be heated. The bed should have a constant bottom heat of from 60° to 95°. The roots of the crowns are trimmed off to about three inches from the top. The pips are then planted about one or one and a half inches apart each way, and closer if room is limited. Water is given plentiful, and never colder than 85°. The bed is kept dark, and covered until the buds are fairly started, after which light is admitted gradually, and when two-thirds of the buds are in bloom, the flowers are hardened by giving still more air, and finally removing the cover entirely. In order to keep up a constant supply of flowers, a quantity of crowns are planted every two weeks.

To preserve the pips, they are kept out doors, covered with six to twelve inches of soil, as it is found that they force better when the ground around them has been frozen. It is not advisable to begin forcing Lilies of the Valley before the end of November, as it has been found that those forced previously produce not over 50 to 75 per cent. of blooms, while those forced later give flowers from every crown.

VIOLETS.

This is another of Flora's modest children, which is admired by every one, and till is but seldom found in private gardens. It is now time to plant the clumps in cold frames, and to those who may desire to pick a bunch of Violets occasionally during winter, the following notes, given in the *Germantown Telegraph*, may be of value:

"There is no more popular flower than the Violet, and as it is one that can be enjoyed by all with very little labor, while the expense is not to be thought of, we are often surprised at its absence in many households. It is one of the earliest to bloom; in fact, it can be enjoyed almost throughout the entire year; and is so hardy that it requires very little protection. At most a cold frame, covered in winter with straw matting, which a bundle of straw will supply, will be sufficient to give us flowers in the latter part of March, when the plants, which have been increasing, should be partly removed and set in the open ground. A portion of these may be let remain out all winter, well covered with manure, to be uncovered early in March. It is also one of the prettiest and most welcome house-flowers, being planted in a suitable wooden box and placed in a cool part of a room, and aired occasionally by being set in the sun at a window in the room in which there is no fire, and allow the sash to be raised for an hour at mid-day when the weather is not too severe. There was very little intermission the last fall, winter and spring, in which we could not gather a little bouquet of Violets for our parlor."

Lawn and Landscape.

PREPARING SHRUBS FOR WINTER.

We generally neglect the lawn and flower-garden in the fall. In fact, we are quite apt to neglect them all summer. We dig about among our shrubs in spring, and cut away dead branches, and try to make them a little more symmetrical; but after the period of blooming is over we forget about them. They are quite sure to get into straggling shapes: here will be a branch of robust growth, and on the other side there will be more of corresponding vigor to balance it. This should be seen to during the summer, when the plant is growing. If you see a tendency to one-sidedness, cut back the vigorous branches, and *keep* them cut back until new branches are forced to start on the other side of the plant. By a little attention to this matter during the growing season, which comes immediately after the period of blossoming with most shrubs, you can keep them in good shape.

It does not require the skill of the professional gardener, as many persons imagine, to grow shrubs well and keep them healthy. In the first place, they must be planted in good soil. Then they must be kept out of the grass, or, rather, the grass must be kept away from them. You cannot expect a shrub to do well if you allow the earth about it to get swarded over, as it soon will if you do not keep fighting the grass back. It is a persistent and aggressive enemy, but you can keep it down, and the price of the victory is always eternal vigilance. If you do not let it *get the start* of you, the labor of keeping it away from the roots of shrubs is not much.

We may have much finer shrubs than we usually see in lawns if we give them proper care in autumn. Those which are hardy enough to stand the severe winters of our northern climate without protection will do enough better *with* protection to pay for all the trouble we are giving them. I have laid down my hardy Roses for the last five years, and covered the branches with coarse litter in November, and I find that they give me a much greater satisfaction in quantity and quality of bloom than was the case before I began protecting them. Our long winters injure them if left standing, though they may not seem to, to the ordinary observer.

I always cut back my shrubs well when I give them their fall "going over." That is, most shrubs. Such as bear flowers early in the spring, on wood of this year's growth, it will not do to trim, because in doing that you destroy the buds which will produce flowers next season. Roses, Honeysuckles, Wistarias, and such plants, will produce flowers on next spring's growth; but the Hydrangea paniculata grandiflora—one of our very best new shrubs—the Lilac, and similar plants, make their preparations for next season's campaign now, and you must wait until after they have blossomed before pruning them.

Before I lay my plants down for their winter sleep I spread some coarse litter from the barn-yard about their roots; then I bend the branches over carefully, and fasten them down with little pegs, or a forked limb. Over them I throw more of the litter. In spring, when I lift them, this litter is dug into the soil about their roots. If there is much straw in it cover it up, and do not leave unsightly bunches of it on the surface of the soil. November is early enough to lay down most plants, and most kinds should not be lifted before April, unless we have an unusually warm and early spring. Let the air get rid of its winter chill before waking up the plants, and telling them it is time to grow. They will know when to do that better than you do.

EBEN E. REXFORD.

CARE OF HONEY LOCUST HEDGES.

In the northern sections of the United States, where the Osage Orange is more or less injured by the winter, the Honey Locust is undoubtedly the most valuable plant for hedging purposes. There is no special culture necessary for it more than is required for other species, but it needs attention for the first two or three years to form a thick base. The young hedge should be frequently cultivated, and kept clear of grass and weeds all summer, otherwise mice will harbor therein and bark the young plants. In trimming, cut well back for the first two or three years, bearing in mind there is no difficulty in quickly obtaining the desired height, but it is far more troublesome to induce it to become dense and twiggy.

The best results are obtained from running one strand, or, better still, two strands, of barbed wire along the middle of the hedge, thus preventing the inroads of unruly animals, and that bane of the honest orchardist, boys with thieving propensities.

To start at the commencement, Honey Locust seeds should be collected in the pods as they fall from the trees in autumn, and placed in a cold, exposed position until hard, freezing weather, when they can readily be threshed like beans. After cleaning the seeds from the fragments of pods, etc., place in bags and preserve dry until spring. At planting-time soak the seeds in warm water until they show signs of germination, when they should be sown in drills like peas, in good, thoroughly pulverized soil.

Like the larger portion of our native trees, this species forms more root than top the first year, consequently one-year seedlings are usually rather small for planting in the hedge-row; but they should not remain longer than two years, else they will be on the other extreme.—*Josiah Hoopes, in N. Y. Tribune.*

SKELETON LEAVES.

Now that the lawns are strewn with gayly colored leaves and the trees will soon be entirely defoliated, the directions for preparing Skeleton Leaves, given in *Knowledge*, may be interesting to many of our readers:

"Take a large saucepan of cold water, and a piece of scrubbing-soap about four inches square, cut into small slices. Gather mature leaves, seed-vessels, etc.; put some soap into the water, then a layer of leaves one by one, then more soap, then leaves, and so on. Put on a lid, set the pan by the side of a fire, and let it simmer. After an hour take out a few leaves, and try them between the thumb and finger; if the pulp separates readily from the fibre, remove them from the fire; if not, let the pan remain. Some leaves, such as Ivy, Orange, etc., are done in an hour or two; others of a tougher fibre take half a day. Seed-vessels of Mallow or Campanula take a short time. Large Poppy or Stramonium requires, perhaps, two days. Now lay a leaf upon a plate, under a tap of running water, and beat it with sharp strokes with a hard brush—say a tooth-brush; the green matter will run off with the water. When the skeleton is quite clean, dry it upon blotting-paper.

"To bleach the specimens put a quarter of a pound of chloride of lime into a large bottle of water, cork it, and let it stand some days. Strain it, and mix with more water in a basin; immerse the leaves, etc. Again carefully watch and remove them as soon as they are white, for the lime soon renders them brittle and rotten. Wash again in pure water, and dry as before. As the stems usually come away from most leaves, it is well to boil several stalks separately, and, after bleaching, to mount the leaves by gumming them to the stems."

THE VIRGINIA FRINGE-TREE.

(Chionanthus Virginica.)

To any one in search of a beautiful and not commonly seen shrub, or small tree, for the lawn, we earnestly commend the Fringe-Tree, or White Fringe, under which name it is also known. It grows wild in Virginia and southward, and succeeds well in cultivation throughout the Northern States. Yet, although it requires not more care than other lawn shrubs, and is much prettier than many whose place it might occupy, it is but seldom seen in northern gardens.

It grows from a bushy shrub to a small tree of twenty or more feet in height; its leaves are large, oval oblong, dark green, somewhat downy, resembling Magnolia-leaves; its delicate, snowy-white flowers hang in loose and gracefully drooping panicles. A Fringe-Tree in spring, when in full bloom, covered with a profuse mass of long, graceful fringes of pure white flowers swaying in the breeze, partly hidden by the large, deep green, glossy foliage, is a beautiful sight indeed.

The shrub is of rather slow growth at first, but in a rich, loamy, rather moist soil, it thrives pretty well, especially when sheltered from the bleak west and north-west winds by a group of Evergreens. It may be propagated from cuttings, but it becomes hardier and more vigorous when grafted on the common Ash.

PRUNING EVERGREENS.

Evergreens should never be pruned in the fall or winter. The cutting off of the summer's growth during this season exposes the inner parts of the tree or hedge to the snow and cold winds of winter, to their serious injury. Thousands of hedges are annually destroyed by such unseasonable pruning. Spring is the time for pruning Evergreens, especially when large limbs are to be removed. Hedges which are to be kept as even and neat as possible may be pruned the latter part of June or first week in July. At this time the new growth is still soft, there is no danger from cold injuring exposed parts, and there is sufficient time for the ripening of the new wood before winter.

The Window Garden
AND GREENHOUSE.

SINGLE DAHLIAS.

The notes on and picture of single Dahlias, in a former number of THE AMERICAN GARDEN, incite me to tell what I think about them. They are lovely flowers and more brilliantly colored than double Dahlias, which are the fashion in that line just now, though in popular estimation they will not supersede the good, old, double sorts. But there is room for both. I find, too, that single Dahlias, as out-door plants, grow very rankly, and do not bloom so copiously or perfectly as do the double ones, and the same I find to be the case with the Poinsettia-scarlet Cactus Dahlia, D. Juarezi.

But the most excellent results, as regards limited growth and multiplicity and perfection of blossoms, may be obtained with single Dahlias grown as pot plants — indeed, more so than with double Dahlias, and as pot-plants, curious enough, they are at their best from April till June. They love a deeply worked soil, and seem to bloom best in a well-compacted one, and prefer a fully exposed to sunshine situation. All Dahlias are readily obtained from seeds, and, from seeds sown in spring, good blooming plants may be had in the following August and September; but, as a goodly proportion of the seedlings from even the best double sorts will come semi-double, or otherwise inferior to their parents (of course many good flowers may also be obtained), Dahlia seedlings have fallen into disrepute; but this is not so much the case with single Dahlias. Mr. Cullingford, of London, an amateur horticulturist of most refined taste, sent me, last spring, some seeds of single Dahlias saved from his own collection. These seedlings are now in blossom, and display a general beauty and excellence at once gratifying and surprising. Some are as deep and glowing a maroon as Paragon; others as vivid a scarlet as a Vesuvius Geranium, and so on in like manner among the reds. By all means let your readers try a packet of seeds; every seed will grow as readily as a Zinnia-seed.

I would like to commend Dahlia imperialis to the notice of those who have plenty greenhouse room; its noble habit and gigantic form, together with its airy, lovely pinkish flowers, render it a most imposing plant. Planted out of doors, like other Dahlias, our summers are too short for it to blossom outside; but, by lifting it carefully and potting it, we can have it in blossom in October or November.

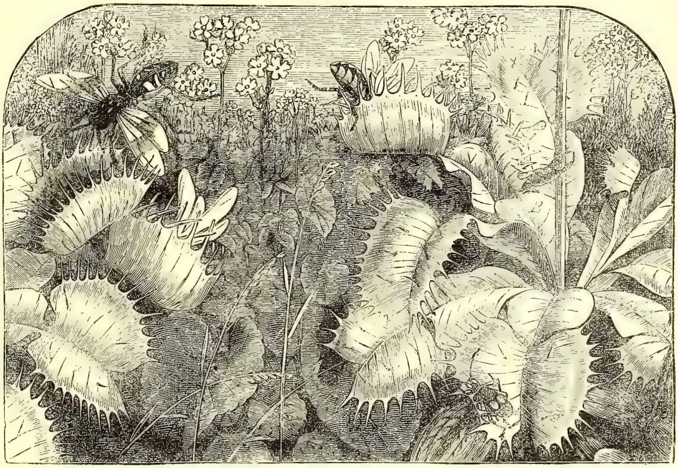
WILLIAM FALCONER.

THE VENUS FLY-TRAP.

(Dionæa muscipula.)

This interesting and curious plant is indigenous to the sandy savannas of the Eastern Carolinas, and is not found elsewhere, so far as is known. Near Wilmington, N. C., it is found in large quantities, growing in turfy, sandy bogs. The narrowly circumscribed geographical section to which the plant is confined is remarkable, nor has any other species of the genus been found elsewhere on the globe.

Few species of plants have been, to so great an extent, the subject of scientific investigation and speculation as this little oddity. Charles Darwin held that it was a carnivorous plant, and thrived much better with animal food than without; against which so celebrated a botanist as C. de Candolle claimed that, while the leaves entrapped insects, and held them firmly inclosed until entirely absorbed or decomposed, "the absorption of animal matter is no direct advantage to the leaf, and not necessary for the development of the plant." A question which, as yet, has not been positively settled.



THE VENUS FLY-TRAP.

The Dionæa is undoubtedly one of the most curious plants in existence. Whether animal food is necessary to its welfare or not, it is extremely interesting to watch its movements.

The Venus Fly-trap — or simply Fly-trap, as it is usually called — belongs to the natural order *Droseraceæ*, or Sun-dews, all of which have the tendency to entrap insects, but not to so marked a degree as the Dionæa. The petioles, or leaf-stalks, are broadly winged, while the leaf itself consists of two hemispherical lobes or sections, the edges of which are fringed with hair, as shown in the accompanying excellent illustration. Near the center of each half-leaf, on the upper side, are generally three extremely sensitive bristles, which are so arranged that an insect can hardly traverse the leaf without coming in contact with them. The slightest irritation of these causes the leaf to close suddenly, like a trap, the hairs of the edges interlacing and holding the unwary insect captive.

The Dionæa can be readily cultivated, and will be found a source of much pleasure and amusement. It should be planted in peat earth, mixed with Sphagnum, chopped fine, and some sand, in small flower-pots, set in a saucer of water. During the season of growth the plants should be watered copiously every day, and kept moist at all times, though not deluged. It requires but a moderate temperature, and may be successfully grown in an ordinary living-room, provided the air is not very dry. In a Wardian case, or under a bell-glass, there should be no difficulty to grow it in any warm room, as the plant needs no sun and but a moderate amount of light. Its small, white flowers are produced on slender stems, ten to twelve inches high; but, in order to produce strong plants, the flower-buds should be pinched out as soon as they appear.

C. R. HEXAMER.

HEATING SMALL CONSERVATORIES.

The difficulty in keeping small greenhouses and plant-rooms properly heated during cold weather deters many lovers of flowers from keeping plants in their houses. A letter before us demonstrates that the difficulty is not so insurmountable as it may appear, and that, even in the far North, living-rooms can be made cheerful and blooming during the dreary winter months, with but little expense.

Mrs. Theresa T. Hicks, of Minnesota, whose kind interest and good wishes for the AMERICAN GARDEN we highly appreciate, writes: "I am exceedingly fond of flowers, and have in my little conservatory nearly two hundred pots and hanging baskets. I have been very successful in keeping them through the cold winters for the past six years, and our winters here are winters indeed, the mercury often ranging from zero to ten, twenty, and even forty below, for weeks. I have no heater in my conservatory; it is warmed by wood-stoves in rooms opening into it. Of course, I have double windows, and on very cold nights I light three small kerosene lamps in it, that burn all night, keeping, at the same time, two or three pans of water on the floor. Last winter I had sixteen blossoms on two Callas, and flowers of some kind all winter long."

Rural Life.

GARDEN CULTURE IN COLORADO BY IRRIGATION.

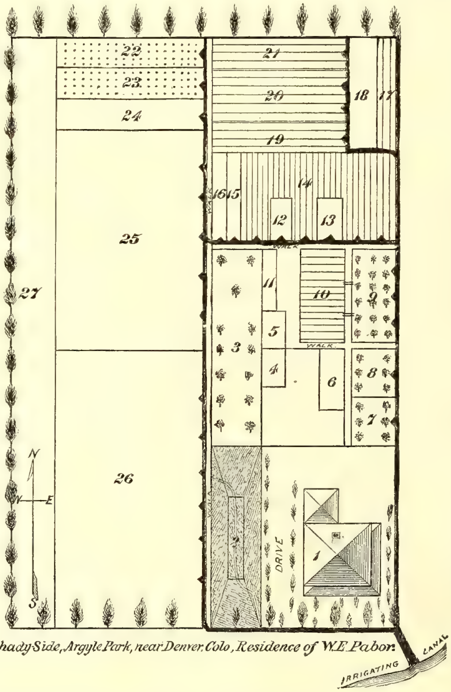
(With an illustration.)

BY W. E. PABOR,
Author of "Colorado as an Agricultural State," "Fruit Culture in Colorado," etc.

Garden work and fruit culture in Colorado must be planned to meet the requirements and conditions of its peculiar climate; and as these include irrigation, it is desirable that the land selected for the garden or for a fruit plantation should be as level as possible, as it involves more or less expense and added labor on irregular or sloping ground.

Shadyside, the residence of the writer, located about two miles from the city of Denver, is a block of four acres, having the good fortune to lie close to the main irrigating canal that waters a strip of country about ten miles long and from one to three miles wide. Trees — Cottonwood or Linn — border the south, west, and north, making a complete shelter-belt, leaving the eastern side with a full exposure to the sun. The house is set in a grove of trees of ten years' growth. Over the eastern half of the land there is a gentle slope to the west, while the western half is fairly level.

The main canal, passing within two rods of the south-east corner of the land, is tapped by a flume of wood, laid level with the bottom of the canal, and passing through the berme on the lower side of the canal; at the end entering the canal there is a wooden head-gate, made to lift, to allow the number of inches required to pass under it and through the flume; this head-gate can be dropped down when water is not being used, shutting it entirely off. Five inches of water is used during the season at Shadyside; by this we mean the amount that would pass through an orifice one inch deep and five inches wide, or two inches deep and two and a half inches wide, as the case may be. One inch is usually considered sufficient to water one acre.



Shady Side, Argyle Park, near Denver. Colo, Residence of W.E. Pabor.

EXPLANATIONS.—1. House; 2. Flower garden; 3. Chicken run; 4. Barn; 5. Chicken house; 6. Cow corral; 7. Rhubarb bed; 8. Grape-vines; 9. Asparagus bed; 10. Experimental garden; 11. Hay-stack; 12. Water-melon patch—Bean row border; 13. Musk-melon patch—Bean row border; 14. Kitchen garden—variety of vegetables; 15. Tomato patch; 16. Cucumber patch; 17. Rows of pole Beans; 18. Turban Squash bed; 19. Strawberries; 20. Currants; 21. Strawberries; 22. Raspberries; 23. Blackberries; 24. Cauliflower and winter Cabbage; 25. Onion patch; 26. Currant and Gooseberry plantation; 27. Alfalfa strip.

The heavy black lines represent the shallow laterals running alongside the various beds in which the water taken from the main canal flows, and which is tapped at various points to meet the requirements of the occasion. For instance: Water is let into the garden at the south-east corner, allowed to flow down the fence line until it reaches Plot 7, which is a bed of Rhubarb, or Pie-plant; here, at a central point, a temporary check to the water is made by damming the channel; two or three shovelfuls of dirt are generally sufficient for this purpose. By making an opening in the west bank of the lateral, at the point indicated by ▲, the water, thus diverted, flows into the rows of Rhubarb, until enough is let in to fully saturate the ground, say for half an hour, in which time it will sink several inches in the sandy loam of which the soil is composed. Then the temporary dam is removed, the cut in the bank filled up, and the water allowed to flow along until it reaches the patch of Grape-vines, where the same process is repeated; then to the bed of Asparagus; this, being larger, will require two or three openings, so the dam is built at the farther corner of the bed, and three openings made for the water to flow through into the rows. Plots 7, 8, and 9 have young fruit trees growing in them—Apple, Pear, Cherry, etc. The water from this bed that does not soak into the ground is allowed to flow through a couple of small, wooden flumes set in the walk, into the plot numbered 10, which is a sort of Experimental Garden, where new and choice varieties of seeds are tested. The ground here being perfectly level, the water will run down a row and then run back in another row, until several are filled. A furrow is run in each row; we generally use the Firefly plow and find it answers the purpose very well.

When these beds are fully watered, the dam is removed and the water allowed to turn to the west, along the plot numbered 14. This is the kitchen garden, where all kinds of vegetables are grown for home use, mainly in rows. The Plots 12 and 13 are Melon patches, in hills, with a border of Wax Beans banked up on the outer side, so that the water can completely cover the space allotted for Melons. The Plots 15 and 16 are Tomato and Cucumber beds, also in hills. The rest of the plot is planted and cultivated in rows. This last summer we had Corn, Parsnips, Carrots, Beets, Lettuce, Radishes, Peas, Beans, Nasturtiums, Melons, —Musk and Water,—Turnips, Red Cabbage, Savoy, Kohl Rabi, Summer Cabbage, Onions, Chufas, Peanuts, Tomatoes, and Cucumbers, growing in this plot of ground, in abundant supply.

In irrigating this ground, a check, by damming, is made about every rod, and eight or ten rows of water can be seen running down the furrows at the same time. The furrow is run as close as possible on one side of the row of vegetables, in order to allow the water to seep down close to the roots of the growing plants. It takes but a short time to fill these channels, and the shining currents of water, glistening under a summer sun, are a beautiful sight to see, aside from the usefulness of the mission upon which they journey.

When the water has passed the rows and reached the Tomato and Cucumber patches, it flows into zig-zag furrows run by the "Firefly," so as to circle around each hill. The water easily flows in them all, seeping and spreading on each side, and penetrating the ground several inches, until the beds are thoroughly saturated.

When this pleasant work is completed, the lateral running west is shut off and the water allowed to flow north again, until it reaches the plot marked 17, where three rows of bean-poles, about thirty in a row, show the Cranberry and the Lima growing luxuriantly. Down these rows it runs, flowing over into Plot 18, where a patch of Turban Squashes are growing. From this it falls into the lateral running along the east line of plots marked 19, 20, and 21. The first-named is a bed of Crescent Seedling and Jucunda Strawberries; Number 20 has eight rows of Red Dutch Currants, twenty-five in a row; Number 21 is a bed of Wilson Strawberries. All these are grown in rows, and their irrigation is an easy task.

Now, as will be seen, the entire east half of the garden has been well watered, spending about half a day in the work.

We now come to the west half. The water is turned from flowing into the channel on the east side of the garden, and allowed to run down a lateral outside of the south fence fronting the house, until it reaches the farther side of the drive-way and the corner of the flower garden, where it flows into and out of one bed into another, as shown in the map. These five beds have raised walks about and between them, so that they are lower than the surrounding surface, and a system of flooding is followed. A better plan, however, and one that will probably be followed hereafter, is to attach a garden-hose to the force-pump at the kitchen door, with a sprinkler attached. But the flooding method was pursued this last summer with good success.

Lying west of the flower garden is a newly made Currant and Gooseberry plantation: one thousand bushes of the first, one hundred of the last. These are in rows of twenty-five each, four feet apart. To irrigate these, the volume of water is allowed to flow past the south end of the flower garden, turning north at the corner of the Currant rows, and running along their eastern edge. Here the water, dammed at convenient distances, fills up furrows thrown up with a ten-inch plow, and flows off into Plot 27—an Alfalfa bed.

When these are well watered, the dam is removed and the current carried farther north, where a large patch of over a hundred rows of seed Onions are growing. Here the ground is kept fairly level, though there is a slight slope to the west. Rows are made eighteen inches apart, and at every tenth or twelfth row sectional dams are made with earth, and the water runs until it flows into and fills all the channels made in the rows; then the first dam is removed and the process repeated, section by section, until the bed is all irrigated, the surplus water going into the Alfalfa patch.

Plot 24 contains rows of winter Cauliflowers and Cabbage, and takes the water next, the same method being pursued. It then passes on until it reaches Plots 23 and 22, where Raspberry and Blackberry bushes are set in rows. As these are as yet young plants, the large space of ground they occupy has been utilized by planting Pickles and Squashes between them, in a line with the bushes, so that the water as it flows past is made to do double duty.

As has been noted, all the waste or overplus of water, from 22, 23, 24, 25, and 26, flows into the strip of Alfalfa on the western side of the garden, which, from this cause, generally gets moisture enough without any further labor on the part of the gardener.

The time and labor involved in thus irrigating a plot of four acres is neither long nor tiresome. It is more in the nature of a pleasure. In one day a thorough saturation of the ground, sufficient for a week, can be given. The only implement required is a long-handled shovel to break and fill up banks, check laterals, and guide the rapidly running water into the furrows provided for it. Through the season some rainfalls may be counted on, so that two or three weeks may pass without requiring irrigation.

The profit in it all? The expense?

Well, at Shadyside the most of the stuff raised is for home consumption, and the work, in greater part, done by the writer during the hours that precede and follow office work, which takes up the day between the hours of 8 A.M. and 5 P.M. The expense for seeds is not very heavy. The amount of produce raised in Plot 14—the kitchen garden proper—is far beyond the needs of a family of seven, even in the appetite-encouraging climate of Colorado. Of berries and small fruits there is a surfeit. The east half of the garden is for the sole use of the family, and nothing is sold, though something given away to friends not so fortunately situated for garden products. The Currant plantation and the Onion patch are expected to yield a revenue; the first in the near future—the second, each year. Two hundred bushels of choice, Yellow Danvers can easily be raised on the plot of ground allotted to the culture of this esculent, selling readily at from $1.25 to $1.50 per bushel in October and November, and bringing $2 if kept until the following April. The one thousand Currant bushes, two years hence, will yield at least two quarts each of choice fruit, or two thousand quarts; the very lowest price for these, even if wholesaled, will be 15 cents, or $300. Later, and for years after, from six to eight and ten quarts may be expected; when, even if the price falls to 10 cents per quart, at least $600 worth of Currants can be safely calculated upon in a country where the Currant-worm is unknown.

In the spring we have found that the labor of one man for a month is required to prepare the ground, plant seeds, and dress up bushes. Through the summer, two hours each night and morning, spent in the garden, will—with the help of two boys, Willie, fourteen years old, and Edgar, twelve years old—keep the garden in good tillage, except as to the Onions, if from seed; if from sets, no extra help is needed to keep the patch cleanly cultivated, with the excellent hand-cultivators now so generally used. In all, two months of extra help, at $25 per month and board, equivalent to $100 for the season, enables us to keep Shadyside measurably free from weeds, and in a fair condition.

OUR EXHIBITION TABLE.

Moore's Early Grape.—A plate of large, beautiful bunches of this variety, received from J. B. Moore & Son, Concord, Mass., furnishes convincing proof of its distinctness from Concord. A bunch of the latter, grown in the same vineyard, and received at the same time, was not nearly as ripe, and of but half the size. True, we have seen better bunches of Concord, and there were at the time finer ones for sale in our markets than the one from Captain Moore. Yet in comparing the best bunch of Concord we could find, with Moore's Early, the berries of the latter were still larger, sweeter, and of purer flavor.

The Jessica Grape.—A bunch of this new variety was received from *Mr. D. W. Beadle*, St. Catharine's, Ontario, who considers it the earliest White Grape in cultivation. Its color is greenish white, bunches and berries small, about the size of Delaware, or a little larger, but not as compact. As far as we can judge from the sample, which was not fully ripe, its quality is very good, of a rich, aromatic flavor, with a peculiar sprightliness, and free from any foxy odor. Its great earliness, combined with its other desirable qualities, will, no doubt, make it a most valuable Grape for northern climates.

ANSWERS TO CORRESPONDENTS.

Old Tuberose Bulbs.—*C. M. S., Dodge Co., Wis.*—Tuberose bulbs will occasionally bloom a second time. Whether they flower or not, they will produce a great number of offsets, which may be broken off and planted out next season, when they will make good-sized bulbs for flowering the year following. All the offsets must be removed before planting, if fine flowers are expected.

Asparagus Roots.—*E. K., Schoharie County, N. Y.*—It is not advisable to plant three-year-old Asparagus roots. If the plants are strong and healthy, at least half of their roots are cut off in digging, so that there is no advantage over younger ones, and if they are small and puny, they are not as good as strong one-year-old ones. Unless extra strong one-year-old roots can be had, two-year-old ones are best for general planting.

Planting Fruit-Trees.—*A. W., Chattanooga, Tenn.*—February and March is a good time for planting fruit-trees in the latitude of Tennessee. There is nothing gained by planting very large and older than three-year-old trees. With smaller trees the roots can be preserved better and success is surer. In orchard culture, Apples should be planted thirty-five feet apart each way; Pears and Cherries twenty to twenty-five feet; Peaches and Plums, sixteen to twenty feet.

Potting Bedding Plants.—*A. S. A. Y., Fort Wayne, Ind.*—In potting plants, Geraniums, Fuchsias, and other kinds which have been bedded out during summer, they become necessarily deprived of a part of their roots; in fact, all long, straggling roots should be cut off. In proportion to this loss of roots the branches should also be cut back. In the average it is safe to cut off about one-half of the tops. There is hardly any danger in cutting away too much, but a great deal in not cutting enough.

Prickly Comfrey.—*Subscriber, Bryan, Ohio.*—Prickly Comfrey is grown from root-cuttings. The proper season for planting is early spring, but it will grow at almost any time, when the ground is not frozen. The roots may be cut in very small pieces, about an inch long, and split again lengthwise, if thicker than a pencil. In field culture they are planted in rows three feet apart, and about two feet in the rows. The sets should be covered with fine soil, and firmly pressed down.

Potting Old Azaleas.—*M. E. H. H., Putnam, Conn.*—Azaleas and many other plants may be replanted in the same pots in which they are growing, by shaking or washing out the old soil, and replacing it with new. Care must be taken not to injure the fine fibrous roots, but the old dead and decaying matter, generally found around the ball, had better be cut off with a sharp knife. The pots should also be thoroughly washed before using them again.

Propagating Wistarias.—*Wm. S., Johnson County, Mo.*—Wistarias may be easily propagated by layering. All that is necessary is to bend down early in spring a vigorous shoot of the previous season's growth, cover about a foot of its length near the stem, or farther away if more convenient, with soil, and place a flat stone on the top of it, leaving the end of the cane uncovered. Cutting a few notches on the part to be covered facilitates the formation of roots. In the following spring the connection with the parent plant should be severed, and the layer transplanted.

Two Crops of Potatoes in One Season.—*C. W. T., New Zealand.*—A crop may be raised from tubers grown in the same season, but much dependence can not be placed on the second crop. The Potatoes require a period of rest before sprouting again. In the long seasons of New Zealand better success may be had. The first sets should be planted as early as possible, and the crop from these kept in a cool, dark place, and not planted sooner than to allow them sufficient time to mature before severe frosts occur.

Bouvardias.—*Mrs. G. L. D., Montrose, Penn.*—There may be various causes that make "a plant full of buds droop." Probably there is some defective root action, in which case the plant should be repotted in a proportionately small pot, using a soil composed of equal parts of loam and leaf mold, or decomposed cow manure, with a little sand. Perfect drainage is necessary. Bouvardias are generally bedded out during summer, kept well pinched in to produce bushy plants, and potted again in September.

Jerusalem Artichokes.—*R. R. R., Fresno, Cal.*—Artichokes are ordinarily not grown from seed, but from tubers similar to Potatoes, which they resemble. It requires from two to three barrels to plant an acre of ground. They may be planted whole or cut into pieces, and covered and cultivated exactly like Potatoes. They grow on almost any soil, and under any favorable conditions yield an immense amount of nutritious food for cattle of all kinds. Swine especially are very fond of them.

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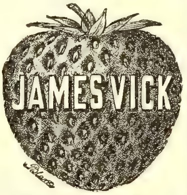

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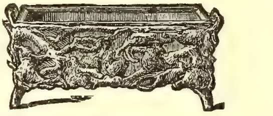

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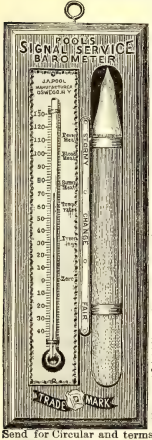

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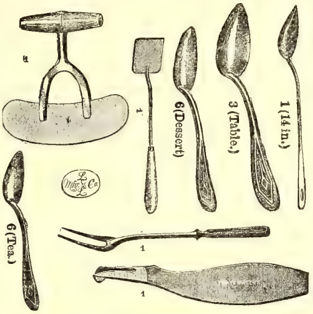

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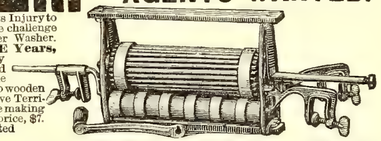

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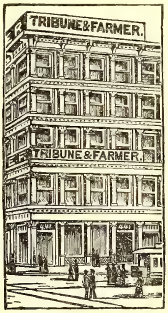
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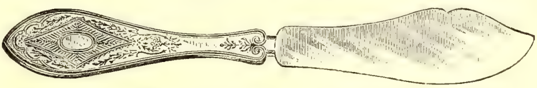

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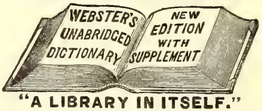

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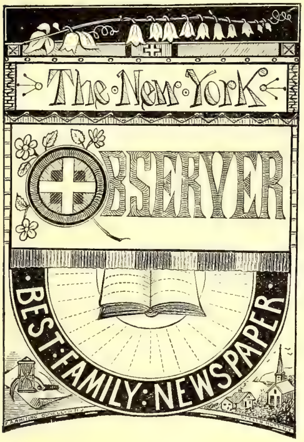

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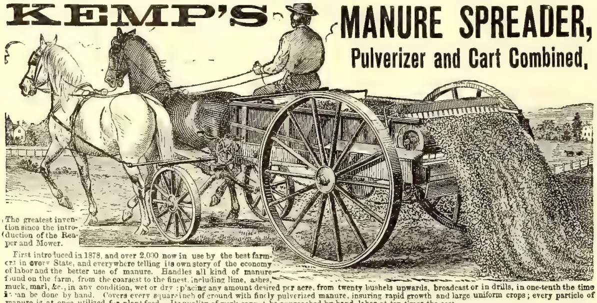

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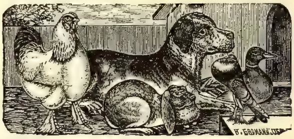

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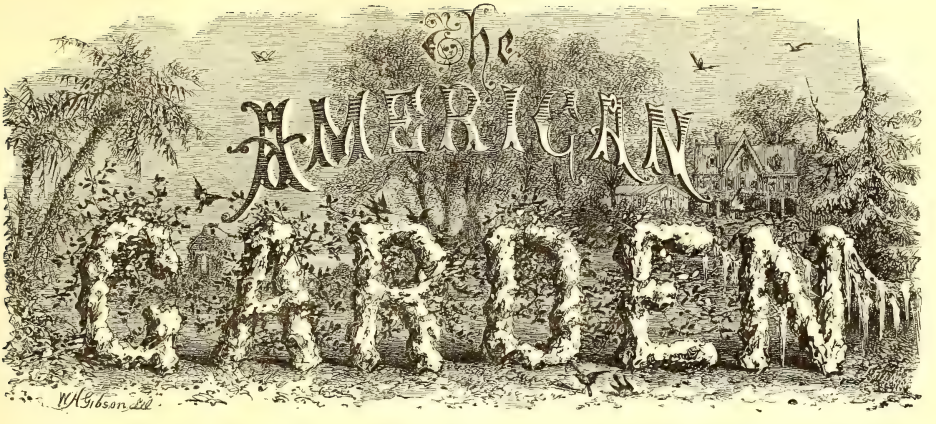

Vol. III. NEW-YORK, DECEMBER, 1882. No. 12.

The American Garden.

A MONTHLY ILLUSTRATED JOURNAL.

Devoted to the Gardening Interests of America.

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TO OUR READERS.

With the closing number of the AMERICAN GARDEN'S first year as a monthly it may be proper to tell our many friends who have taken so kind and active an interest in our progress and welfare, that our expectations, so far, have been fully realized, in regard to the number of subscribers, as well as to the support and assistance of those whose good offices we most appreciate. It is to the latter especially that we tender herewith our sincere thanks, trusting that they have never found us lacking in the fulfillment of our promises, and hoping for the continuance of their good work through the coming years.

No publication can flourish without the active, friendly coöperation of its readers. The mention of it to one's acquaintances, a kind appreciative word spoken to those interested in its tendencies, the forwarding of sample copies to friends, getting up of clubs, and similar favors, which in themselves may seem unimportant, do, in the aggregate, constitute the life and substance of a paper.

We have worked faithfully with all the means at our command to make the AMERICAN GARDEN worthy of the friendship, esteem, and support of its readers, and it is our earnest purpose to make it still better and more attractive in appearance during the coming year, so that no one who cultivates a garden, be it ever so large or ever so small, can afford to be without it. The moral, as well as the educational, influences of a publication like this cannot easily be overestimated, entitling it, we think, to the support and friendly assistance of every one who recognizes the wholesome and refining influences of horticultural taste.

It is, therefore, that we appeal to *you* personally to give the paper a careful examination, and consider whether twelve such issues, together with several beautiful colored plates and a valuable premium of your choice, are not worth a dollar to you and your family. If you decide in the affirmative, send your subscription without delay, before you forget it; if to the contrary, please hand the paper to some one interested in gardening, and speak a good word for us if you feel inclined. But, whatever you mean to do, please do it *now*.

A SPECIAL FAVOR.

We shall consider it a special favor if our present subscribers will send their renewals on receipt of this, the last number of the year. Please send them *at once*, and do not wait until it is time for the next number to come around. It can make but little difference to any one whether he sends his dollar now or in a few weeks, while to us it is of the greatest importance to have our books and subscription lists arranged, as far as possible, before the close of the year.

If you can send a few additional subscriptions at the same time, do not hesitate to do so.

FOR YOUR FRIENDS.

We desire to place the AMERICAN GARDEN in the hands of every person interested in gardening during the coming season. If you will kindly favor us with the addresses of such of your friends as you think would appreciate the favor, we should be happy to send them specimen copies, free of expense.

KIND WORDS.

The AMERICAN GARDEN is a neat, valuable magazine.—*Prof. W. J. Beal, Michigan State Agricultural College.*

I enjoy the AMERICAN GARDEN very much, and find much valuable information and many useful hints in it.—*E. A. N., Salem, Mass.*

The AMERICAN GARDEN pleases me so much that I think everybody interested in gardening ought to take it.—*Mrs. S. P. H., Norwalk, Ohio.*

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I am so well satisfied with the AMERICAN GARDEN that I think I get more than my money's worth, and should not like to miss it even without any premiums.—*Mrs. M. J. S., Washington, Mass.*

I shall have my precious little AMERICAN GARDEN bound for future reference. The papers, with their beautiful pictures and type, and the valuable articles that patience and skill and weary hours have made for us, ought not to be lost.—*C. T. C., Lakeville, Conn.*

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The Vegetable Garden.

SEASONABLE HINTS.

The, in many respects, remarkable season, now speedily drawing to its close, has been suggestive of much thought as to how best to provide against the vicissitudes and extremes of various seasons. A wet and cool spring, followed by a severe drought over a large area of our country, has plainly demonstrated that manure in itself is not sufficient to produce good crops, and that frequent cultivation and thorough preparation of the soil will, in many cases, be productive of better crops than any amount of fertilizers applied to insufficiently prepared and slovenly cultivated ground. The natural formation of some lands is of such a character as to require little more than good plowing and harrowing to fit them for advantageous culture. A much larger acreage, however, is too heavy and impermeable to admit of early and profitable tillage. On all such soils it may be safely asserted that no investment pays better than

Draining, and this season above all others is specially adapted for the work. As a rule it pays best, in the end at least, to do everything connected with it as perfectly as possible. Whatever plan is pursued, a good outlet must be secured before anything else is attempted. Whether tiles, or stone, or brush are used, all are equally inefficient without this prime condition.

Celery.—The chief points in wintering Celery are to keep the roots moist, the stalks and leaves dry, and all as cool as possible without heavy freezing. When these conditions are supplied, all else is of minor importance. When large quantities are to be stored, outdoor ditches or trenches are generally resorted to; some market gardeners use pits and outdoor cellars for this purpose. In a small way, for home use, however, the convenience of having everything handy and near by outweighs a great many other considerations; and there is no housewife nor servant-girl who would not rather step dry-footed to the cellar for a few stalks of Celery than to brave through storm and wind and dig it from under snow and ice.

We have sometimes kept Celery in common soap-boxes by scattering some soil over the bottom and packing the roots close together, giving occasionally water enough to keep the soil wet. This is a neat and convenient way, but for some cause the stalks will become bitter sometimes. A plan that has never failed us is to bring some rather heavy soil to a cool cellar, and heel in the roots close together. The rows should be placed parallel with the wall, and the first one leaned upright against it. When all is disposed of in this way, a board should be laid against the outside row. This board is not removed until all is used,—the supply wanted from time to time being taken from the ends of the rows,—except when the soil becomes dry. The board is then lifted up, and with a long-spouted watering-can water is poured over the roots, taking great care not to wet the stalks and leaves. In very dry cellars this may be necessary every two weeks; in damp ones it may not be required all winter.

FIELD EXPERIMENTS.

The series of frequent reports, issued to inform the public of the progress made at the *New York State Experiment Station*, has already been productive of more benefit to the farmers and gardeners of the State than the entire appropriation amounts to. The director, Dr. E. L. Sturtevant, by taking the public into his confidence, by recording failures as carefully as successes, and by illustrating the many difficulties which constantly encounter the experimenter, and the various deceptive results which tend to lead him into the temptation to "jump at conclusions," has given to agriculturists generally a clearer understanding and appreciation of the importance and possibilities of Experiment Stations than they ever had before.

The following are among the most important results of experiments recently made at the Station:

THE SELECTION OF SEED CORN.

An experiment designed to determine the influence of the butt and tip kernels used as seed, and to prove the correctness or fallacy of the custom of rejecting the butt and tip kernels from the selection of Seed Corn, as is an almost universal practice among our most careful farmers, resulted in demonstrating that:

1. The tip kernels were the most prolific of good Corn.

2. The butt kernels were more prolific of good Corn than the central kernels.

3. The tip kernels bore longer ears than the other kernels, the butt kernels the next, and the central kernels the shortest.

4. The merchantable ears from the butt were distinctly heavier than those from the tip, and those from the tip distinctly heavier than those from the central kernels.

5. The butt kernels furnished more unmerchantable Corn than did the central kernels, and the central kernals more than did the tip kernels.

MUSK MELONS.

The *Christiana* was found the most satisfactory among the varieties tried. One peculiarity of it is that it becomes detached from the stem as soon as ripe, so that one is never at a loss to know when to pick it, and it is in the best possible condition for eating the hour that it becomes free.

In growing Melons, it is recommended to add a handful of sulphate of potash or several handfuls of wood-ashes to each hill. The effect seemed to be to improve greatly the quality of the fruit grown.

EXPERIMENTS IN CULTIVATION.

A most important lesson derived from the varying issues of duplicate experiments is, that the system of plat experiments, as usually understood—*i. e.*, the planting of equal areas under presumably like conditions, and then estimating the efficacy of treatment by the crop yielded—is not capable of giving answers which can be deemed trustworthy. Before progress in experiment can be made, it will be necessary to devise some more accurate and scientific method, one which is not only free from the objection to the plat system, but one which may be capable in itself of giving results which can be acted upon as if trustworthy. The experimenter must be able to devise measures by which the plats can be made equivalent in fact as well as in supposition.

ADVANTAGE OF STIRRING THE SOIL.

The influence of stirring the soil, in conserving its moisture, received a conclusive illustration from the lysimeter experiments. The results showed that soil covered with growing grass evaporates and transpires more water than does hard soil, and hard soil more than that kept tilled. Demonstrating plainly that, through thorough cultivation, we are enabled to conserve to the soil a large amount of water during a drought.

RENOVATING OLD GARDENS.

After a garden has been maintained in the same place for many years it sometimes loses its productive power, in spite of repeated and heavy manuring. Many kinds of vegetables refuse to thrive, and it becomes necessary to change the garden-plat, or infuse new life into the cloyed soil by a period of rest and a partial return to a state of nature.

The location of the vegetable garden is not always a matter of choice, and frequently there is but one place which unites the different requirements of soil, exposure, and convenience, and after this has been permanently inclosed, it is annoying to arrive at a period when the garden becomes unable to meet promptly the demands upon it.

It has long been known that heavily stocking an old garden with Red Clover, and allowing it to remain two years without plowing, will bring the soil back to its fertility and vigor. This is sometimes done by farmers, but it is hard to persuade a village resident to adopt a remedy so far outside of his usual course. As a substitute, which under certain conditions is even better than Clover, I would recommend planting Strawberries. One half of the garden may be planted at a time, leaving the other half for the raising of such vegetables as still continue to flourish.

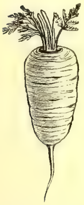
Plow at the usual time, and in April plant strong plants of any very vigorous variety, with perfect blossoms and desirable fruit, in rows thirty inches apart and fifteen inches in the row. Keep clean, and allow the runners to cover all the ground. Late in the fall mulch lightly with chopped straw, and in the following spring pull up any weeds that show themselves. Under anything but extraordinary circumstances—such as a very late frost or peculiarly unfavorable weather at blooming time—you will in June pick a large crop of berries, which will be a trifle more difficult to pick than if they were in separate rows. After picking remove all large or tall-growing weeds that may have grown, and leave the plantation for another year's fruiting, mulching again in winter. The result will be a crop of berries nearly as large as the first.

Immediately after bearing, the heavy crop of old and new plants which covers the land should be plowed under, and the ground planted to late Cabbages or Swedish Turnips. The following spring it will be in condition to grow a very large crop of Early Potatoes, followed by Celery. After this the ground will be fit for any garden crop, and the other half of the garden can be subjected to the same rotation. The result of treating a garden once in ten or twelve years to a change of this kind will be eminently satisfactory and profitable.

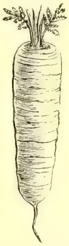
L. B. PIERCE.

CARROTS.

Many gardeners and farmers are deterred from raising Carrots because they suppose there is too much work connected with the crop. This is probably true, as they are often managed. When planted in narrow rows, the work being all done by hand, there is scarcely any end to the fuss and labor, and the value of the crop is very likely to be no more than the cost. Experience is a good teacher in root culture, as well as in all other things. I have grown Carrots a number of years, and adopted a system which makes them one of the cheapest crops grown on the farm. Whoever has had a pile of Carrots in the spring to use knows their value for stock. I would rather have a peck of Carrots each day to go with the Oats, than the same amount of Oats for the horses. For cows, pigs, sheep, and poultry they are equally nourishing and wholesome, not to mention their great value as a table vegetable.



EARLY HORN CARROT.



EARLY HALF-LONG SCARLET CARROT.

The land designed for Carrots should be of a loamy character, as this will work better than clay, and retain moisture better than either clay or sand. Carrots, however, may be grown in any kind of soil if it is properly prepared. The preparation is just the same as that required to produce any good crop — viz., plenty of well-rotted manure and thorough plowing. The land should be plowed deeper than for ordinary crops, and be harrowed until it is mellow and fine. It is a good plan to go over the ground with a field-roller, to crush all the lumps and smooth the surface.

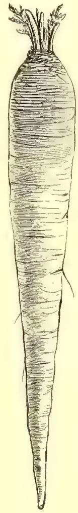
With a light marker, mark the ground into rows twenty inches apart, and then run the seed-drill in these rows. The rows may be wider, but it is waste of ground to make them farther apart than is necessary to allow a cultivator to go between them, as the Carrots really do not require to be twenty inches apart to grow well. The object of putting them this distance apart is to admit their being cultivated with a horse. Putting the seed in the bottom of the marked rows causes them to germinate sooner, as they get covered deeper, yet not too deep, and to get more moisture than when drilled in on the surface. This early starting helps to get the young plants ahead of the weeds, which is an important item.

As soon as the little plants can be seen, they should be scraped — *i. e.*, the weeds and earth cleared away from the rows, leaving the ground smooth and clean on each side. When this is done — removing the ridges made by the marker — the surface will be level, or rather, the plants will stand a little higher than the sides. This puts them in favorable position for the cultivator, which should be run through the rows as soon as the weeds start and while the ground is still clean along the plants. When the rows are scraped, the dirt should be thrown half-way across the rows on each side, to cover up the young weeds which may be started. This work will check the weeds in their growth, so that the Carrots will get large enough to be out of the way of the cultivator. The man should walk backward when scraping the row, doing one side at a time. This work can be rapidly performed, and, when well done, it is about all of the hand labor necessary in raising Carrots. If weeds spring up in the rows, they should be pulled out, and the Carrots thinned, so that they will stand about two inches apart. When closer, they will be smaller, and it is just as much work to top a small Carrot as a larger one.

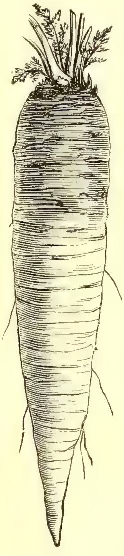
There is no need of digging Carrots with a fork or a spade, as they may be plowed out sufficiently to get hold of them. Set the plow to run deep, and with the team astride of the row, turn them up. As the tops are cut off, throw the Carrots into small heaps. Always select a dry time to gather them, and put them into the cellar perfectly dry. A pound of seed is ample for an acre, and if the drill does not plant true, it is best to go twice in a row. Carrots may be raised as easy as any root crop, and yield fully as much.

There are but few varieties in general cultivation, but whatever kind one may use, good seed of select and pure strain is of primary importance.

Early Horn is the most favorite variety for early use, and is extensively grown by market gardeners for selling in bunches. It is of small to medium size, about two weeks earlier, and more delicate and tender than the large kinds.



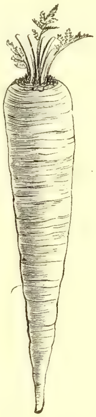
BLISS'S IMPROVED LONG ORANGE CARROT.



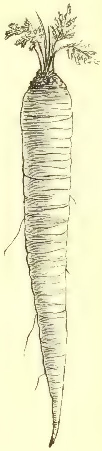
LARGE WHITE BELGIAN CARROT.

Early Half-Long Scarlet. — An intermediate sort between the Early Horn and Long Orange, recommended for shallow soils.

Long Orange is the kind mostly grown as a general crop. It is long, smooth, and of good quality.



LONG ORANGE CARROT.



ALTRINGHAM CARROT.

Bliss's Improved Long Orange resembles the former, but is deeper colored, of more uniform shape and larger size.

Altringham.—Smaller than the Orange, of bright orange red color and good flavor.

Large White Belgian.—This is principally grown as a farm crop for live stock, and is the largest and most productive kind. The lower part of the root is white, and the upper, which grows out of the ground like a Mangel-wurzel, greenish. This variety is rarely used for the table.

Col. F. D. Curtis.

EFFECT OF SHADE ON POTATOES.

Experiments made at the farm of the *Rural New Yorker*, to show the effects of shade on growing Potatoes, give the interesting results that the afternoon sun is of more importance to the yield of Potatoes than the morning sun.

The first experimental plot shaded after 12 M., receiving only the morning sun, produced nearly four hundred bushels per acre. The second, which was shaded until 2 P. M., receiving the sun afterward, produced five hundred and twenty bushels per acre. It was also observed that the afternoon sun produced more Potatoes of a smaller size than the morning sun.

POTATOES IN GERMANY.

Mr. H. Roese states, in the *Deutsche Gaertner Zeitung*, that of fifty varieties of Potatoes grown by him, Early Vermont was the earliest, best, and most prolific. He recommends it as particularly adapted for "purring,"—that is, the largest tubers may be taken away without injury to the remaining ones, which, if carefully covered, and without disturbing the roots, will continue to grow.

The Fruit Garden.

SEASONABLE HINTS.

A not inconsiderable share of next season's returns from berry-plants and fruit-trees depends on the care given them during winter. Standing water in the orchard or fruit-garden should be carefully drained off, if not through under-drains, by surface-ditches and furrows, which should be examined occasionally during winter and cleared of obstructions. Roots of Strawberries, Raspberries, etc., that have become exposed by heavy rains or heaving out by frost, should be covered again with soil or protected by some kind of mulch. The beneficial effects of

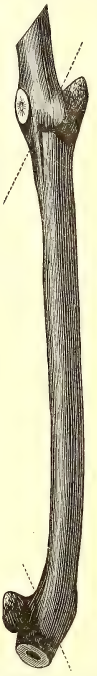
Mulching is generally not sufficiently appreciated. It not only prevents the washing of the soil and the raising or throwing out of plants by the changes of freezing and thawing, but it acts as a veritable fertilizer. Indeed, nearly all plants are benefited by mulching. For hard-wooded plants, as Raspberries, Currants, Grapes, etc., any coarse material will do, but for Strawberries there is nothing better than clean Rye straw, or salt hay, where it can be obtained.

Forest Leaves make excellent mulching material, provided they do not become packed too closely and firmly, shutting out the air like a board. In the woods, the leaves as they fall, one by one, become mixed with small branches, preventing their packing, and consequently lay upon each other as loosely as snow-flakes. But when we rake them together, press and stamp them in baskets and barrels, and cart them away, their spring and elasticity become so effectually destroyed, that never again can they be spread out as loosely as they lay in the woods; and when, afterward, they become wet and weighed down by snow and ice, they do often form a heavy, solid sheet, to the detriment of the plants underneath. To prevent this condition, evergreen branches, with the concave side down, should be placed over the Strawberry rows before scattering the leaves, and some more branches over the leaves to keep them from being blown away by the winds. Forest leaves are almost a complete manure for Strawberries, and if we only could get enough we could dispense with many other fertilizers.

Cuttings of Grape-vines, Currants, Gooseberries, Quinces, etc., may still be made, at any time during winter, when the wood is not frozen, and preserved for spring planting. This is far better than to defer cutting till the season of planting. Each variety should be firmly tied together into small bundles, having the lower ends all one way, plainly labeled, and may be kept in a cool cellar, in boxes, with damp sand. But, unless one is perfectly certain that he will examine them occasionally, and keep them just moist enough, it is safer to keep them outdoors. For this purpose a narrow pit or ditch is dug on a dry spot. The bottom soil is loosened and leveled, and on this the bundles are placed upright and not closer together than to admit of some loose soil being worked around each bundle. A mound of earth is then heaped over the pit, to turn off water and to keep out frost.

GRAPE-CUTTINGS.

The fall of the leaf is the best time in the entire season to prepare Grape-cuttings. But what is the use of making the old-fashioned eighteen-inch cuttings, when two or three buds are amply sufficient, and will make vines more symmetrical, and with better roots.



MODE OF CUTTING SINGLE BUDS.

Even single eyes may be used, and all the advantages of a two-bud cutting retained by dividing the cuttings diagonally across the nodes, as shown in this engraving. The beginning of the cut being opposite and below the direct line of the bud and the terminus one-eighth of an inch or more above, thus exposing a large amount of cambium, from which roots are most naturally and readily emitted, and thereby doubling the number of plants you will make from a given amount of grape-wood.

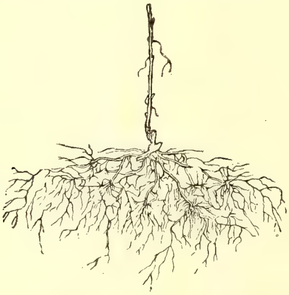
You will see, also, that the appearance of a vine raised from a short cutting, as represented in the cut, is much better than the scant, scattering roots on vines raised from long cuttings.

PRESERVING CUTTINGS.

When prepared, they may be tied with wire or willow, in bunches of fifty or one hundred, and packed away in moss or sawdust, in the cellar, or buried outdoors, thus preserving them in a moderately moist condition until spring.

PLANTING

Is sometimes done immediately in the fall, but the beds, when planted, must be heavily mulched, so that the cuttings will not be thrown out by the frost. On account of this difficulty, the planting is usually deferred until spring. Beds are thrown up of a convenient width, with alleys a foot or more between.



VINE FROM SINGLE BUD CUTTING.

A board one foot wide, more or less, is placed across the bed, and a shallow trench opened along the edge of the board; this trench is usually slanted forward, so that the cuttings may the more readily lie in their place. In this trench the cuttings are placed, an inch or two apart, the dirt drawn forward and pressed firmly against their bases, leaving the top buds just at the surface; then the board is turned forward and a new trench opened and planted, as before. After planting, they may be mulched with tan-bark, rotted sawdust, leaves, or other material.

In open-field planting a line is usually stretched to make the row straight, a trench opened along the line, the cuttings planted and covered in like manner, or the planter may take a sharp spade, plunge it perpendicularly into the ground at right angles from the line and to a depth about equaling the length of the cuttings; the spade-handle is then thrown back to make a wider opening, and withdrawn. Three cuttings are put in this opening, one at each side and one in the center, the top buds being a trifle above ground; the spade is now plunged in two inches forward of the first cut, and as the handle is thrown back, it firmly presses the soil against the cuttings just planted, while it makes an opening for the next three cuttings; and so the operation is repeated to the end of the row.

This makes a broad row of vines, and as the rows are nearly three feet apart, may be cultivated with the horse-hoe.

J. JENKINS, Winona, O.,
Author of "Art of Propagation."

BENEFACTORS OF MANKIND.

Who can estimate the importance and value of a new variety of fruit, which shall be adapted to the wide range of our rapidly extending cultivation. He who shall originate a new Apple, Pear, or Grape, which shall be worthy of being handed down to posterity, should be held in remembrance as a benefactor of mankind, as well as a Franklin, Fulton, Morse, or Field. He who shall discover a remedy for the Pear-blight and other diseases incident to vegetation, which now affect our trees, or an easy method for the destruction of the horde of insects so alarmingly injurious to our fruit crops, shall have his name transmitted to future time as second only to those who discover methods for the alleviation and cure of diseases which affect the human system. What greater temporal comforts can we leave to our heirs than the fruits of the orchard and garden? What more valuable testimonials of a philanthropic life than the trees we plant for future generations? Trees are the best landmarks of a noble civilization. Trees are a rich legacy to our heirs. Trees are living monuments to our memories. Fruits are perpetual mementos to our praise. The man who plants a fruit-tree is a benefactor to his race; and when we shall have gone to our rest, when the fragrance of vernal bloom shall no longer delight the senses, when the verdure of leafy summer shall no longer inspire the soul, when the golden harvest of mellow autumn shall no longer gladden the sight, the tree shall live to bless those who shall follow us. And when, in after ages, posterity shall recline under the shade of the trees planted by our hands, and gather from their bending branches the luscious fruit, will not some grateful heart remember the giver, and ask, "*Who planted that old apple-tree?*"—*Hon. Marshall P. Wilder, before the American Pomological Society.*

THE SUPERB RASPBERRY.

This new candidate for public favor originated some eight or nine years ago on the grounds of Mr. J. Churchman, of Burlington, N. J. On fruiting it he was so well pleased with its appearance that he decided to retain the variety and extend its cultivation, which he has continued to do up to the present time.

He now has a patch of about an acre and a quarter, which, by invitation of that gentleman, I visited on the 4th of July last. Picking had already commenced in a small way some days previous, but I found the canes still well loaded with a large crop of good-sized berries in the various stages of development.

The plants, in foliage, fruit, and other respects, strongly resemble the Montclair, though it suckers much more profusely, and appearances seem to indicate its Philadelphia parentage, as supposed. The berries were large, the best measuring three-quarters of an inch in diameter; color rather dark, flesh firm, with a rich sub-acid flavor; quality among the best.

Mr. Churchman assured me that the size was much below the usual standard, owing to the want of moisture, the ground then being very dry and hard. This was undoubtedly the case; but this fact, in connection with the cool weather that had prevailed, furnished the best possible conditions for producing a rich, solid fruit, of good keeping qualities.

It was these conditions that enabled me to keep specimens, brought away in good condition, for three days.

Had the weather then been as moist and hot as it was during the latter part of September, I could not have done this—the berries would have melted down in half the time.

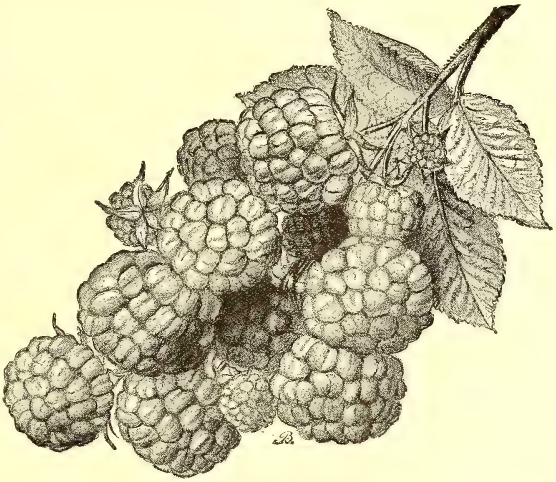
It is this condition of weather and growth, previous to and during the season of ripening, that decides the ability of this fruit to stand shipment to distant markets.

A berry may exhibit one season admirable carrying qualities, and another prove a decided failure, solely from these climatic differences. This fact alone shows the importance of not being too hasty in jumping at conclusions from a single season's trial.

Mr. Downing recently wrote me that he thought five years' fruiting and observation was necessary to form a just and careful estimate of the true value of a Grape; and he is right. Anything short of that can only be regarded as *impressions*, subject to change. Another fact the general reader will do well to remember, and that is the ground on which an opinion rests. The only absolute merit the Superb or any other Raspberry could possess, in the minds of some, would be its ability to stand shipment to market. This, with earliness and productiveness, would make it the best in existence, as it opens the door to the alluring picture of *profit* so deftly held out to view. I think the Superb has other merits quite as valuable. We want fruit to *eat* as well as to *sell*, and should the Superb do as well away from home, with others' care, and remain healthy, I think it will prove a valuable acquisition to our list of good and really hardy Red Raspberries.

But the editor asks, "If it is so near like the Montclair, what is the need of it?" I reply, it is a more acid berry than the Montclair, and some people prefer the pleasant acidity of the one to the rich sweetness of the other. Tastes will differ, as we all know, and they must be gratified.

E. WILLIAMS.



THE SUPERB RASPBERRY.

LABELS THAT NEVER FAIL.

During many years past I have been accustomed to use a style of labels for fruit trees which I have never seen noticed in any agricultural or horticultural journal. The device simply consists in cutting small letters in the bark, on the body of the tree to be labeled. About eight years ago I received an invoice of choice Peach-trees, all of which were labeled by means of small pieces of wood, each bearing the name of the variety to which the piece was attached. With the point of my penknife, I selected a smooth place on the stem of each tree, and drew the cutting edge of the point through the bark, so as to represent letters of the alphabet. For example: To label the Early Beatrice Peach-tree, an **E** was made, then a period, and then the name of the fruit, thus—**E. BEATRICE.** These letters were made one below the other instead of horizontally, as they appear here. Those trees are now in full bearing, and the name of each variety can be read distinctly on the bodies of the trees.

It is not necessary to cut out a V-shaped strip of bark. Let the point of the knife be drawn through the bark, cutting at least half-way through the live bark. Do not thrust the point of the knife so deep as to cut into the wood, as the wound may injure the growth of the tree. When labeling a Plum and a Peach-tree in this manner, the point of my knife cut entirely through the bark and into the tender wood, and I observed that gum continues to exude from all such places where the tender wood was wounded.

S. E. T.

UNHEATED FRUIT-HOUSES.

The expense and amount of attention necessary in ordinary fruit-houses warmed by artificial heat deters many from providing for themselves the most delicious luxuries. The following plan, described in the *London Garden*, may require some modification in our climate, yet may suggest some points to those of our readers who may contemplate the erection of graperies:

These houses were constructed merely for experiment. They are of small size, twenty-five feet in length only; one is a vinery containing three hundred bunches of Royal Muscadine Grapes; another, a Peach house, with two trees, one of which bore over three hundred fruits. The houses run north and south—no other aspect will answer—and are made something like a wedge, seven feet wide on the floor, and three feet at the roof. The rafters run down to the ground, and are eight feet in length. They are grooved, and the glass is slipped in; there is no putty or paint, but the wood requires to be brushed over, when quite dry, with petroleum, which penetrates the entire wood and preserves it. A coat of paint will produce a good effect, but it is not necessary. Each square of glass is kept in place by means of thin pieces of copper; there is a door at each end.

The doors are open from 8 A.M. until 1 P.M., to give firmness to the leaves; they are then shut, and a temperature of one hundred degrees is secured when the sun shines. In a house built in this shape the rays of the sun glance off, and we get no burning and no red spider. It is presumed that a house of this shape, built twenty feet in height, might answer, if the proper angle for the rafters be preserved.

KEEPING APPLES.

In whatever respects the views of fruit-growers may differ as regards the best methods of keeping Apples, all are agreed that Apples, in order to keep well, should be picked as soon as their stems separate easily from the tree, *i. e.*, as soon as they are ripe. Every day's delay after that period lessens their keeping qualities. They should also be kept in as cool a place as possible, without actually freezing. Whether it is best to bring the fruit to the cellar as soon as picked, depends largely on the condition of the cellar. Most growers use barrels for storing, yet many consider low bins preferable, and still others succeed with keeping their Apples in open bushel boxes placed on top of each other.

The Flower Garden.

ALTERATIONS.

If all our world were a broad, level plain,
Each vale exalted and each hill made low,
The rivers then would stagnate, and the rain
Would turn the fields into a reedy slough.

If skies were cloudless, ever clear and bright,
And all our days were one incessant glare,
The flowers would droop, just through excess of light,
And dearth and death would meet us everywhere.

Or if the sky were always dark with cloud,
Making the sunlight only dull and dim,
The wail of famine would wax long and loud,
Earth's cup of sorrow filled up to the brim.

If all the seasons were one summer day,
With harvests ripening in the sunshine warm,
How we would miss the winter, cold and gray,
And long to hear the voices of the storm.

If all our life were one exultant psalm,
With no soft interlude of minor tone,
Methinks its music soon would cease to charm,
And we should weary of its monotone.

If all our days were one unbroken joy,
The very joy would ripen into pain;
For as the gold must have its base alloy,
So sorrow blesses, and our loss is gain.

Creation's law is still the law of life,
The evening and the morning round our days;
While, through the changing chords of rest and strife,
Prayer sings responsive to her sister Praise.

HENRY BURTON.

SEASONABLE HINTS.

Dutch Bulbs of all kinds, Hyacinths, Tulips, Crocus, Narcissus, Scillas, etc., may still be planted where the ground is not frozen, and in well prepared beds will produce fine blooms next spring. Such late-planted bulbs should be covered at once to keep the frost out of the ground as long as possible, and allow them to form good roots before spring. Earlier planted bulbs should receive protection before the ground is frozen hard. Peat, leaf-mould, or fine horse-manure, make excellent mulch for bulb beds, as such fine substances need not be removed in spring, while coarse material has to be taken off soon after the shoots push through the ground, exposing them frequently to late spring frosts.

Gladiolus bulbs are not seldom forgotten to be taken up until the ground is frozen so hard that it cannot be done. If they have been planted the proper depth, they need not be lost, however, in such cases. We have often preserved outdoors large beds of Gladiolus by covering them thick enough to exclude frost. A coat of twelve inches of rye straw or forest-leaves answers the purpose completely.

Roses, the hardy as well as the tender varieties, if in at all exposed situations, should have some protection. The first part of this month is the proper season for this. Amateurs err frequently in covering their Roses too early, causing them thereby to decay or mould. Tall and hardy bushes should be tied up with straw or matting; evergreen branches make an excellent protection. Small plants and tender varieties have to be laid or pegged down and then covered. It is best to cover the entire bed with leaves, and these with some evergreen branches to hold them down.

CHRISTMAS ROSES.

These peculiar and interesting plants do, notwithstanding their given name, neither bloom at Christmas, nor are they Roses, or even distantly allied to them. Their generic name is *Helleborus*, and in their botanical relationship they are Buttercups rather than Roses. Nevertheless, their flowers are so beautiful, and blooming far in advance of any other outdoor plants, that they are always welcome, and prized as much in their season as the Roses of summer in theirs.

The common Christmas Rose, *Helleborus niger*, is a native of Central Europe, growing in rich, sheltered, mountainous regions. In England it has long been a garden favorite, and grows without much care and attention in almost any garden soil; but with us it is rarely seen, and requires more care for its successful cultivation. The plant suffers not so much from extreme cold as from our hot, summer sun, and the sharp, drying winds of winter, and requires, therefore, careful protection from both.

There are, no doubt, sufficiently sheltered spots in many gardens where they might be grown satisfactorily, and would amply repay the trouble taken with them. To those who wish to make a trial, we would recommend to select a somewhat moist and sheltered, partly shaded situation, on the eastern margin of a group of shrubbery. Dig the ground to a depth of two feet, work in plenty of rotten manure, leaf-mould, and some sand, if the ground is heavy, and set out the plants as early in spring as possible. When hot, dry weather sets in, the entire ground should be thickly mulched with muck or cut straw; in winter, scatter forest-leaves over the bed, and cover all lightly with branches of evergreens.

Christmas Roses are also admirably suited for pot-culture, in frames, where they can be protected from the hottest sun and the most piercing winds. During winter the pots may gradually be brought to a warmer place for gentle forcing, and may thus be had in flower nearly all winter. Those brought in earliest, if strong crowns with well-developed buds have been selected, may thus vindicate their name by expanding their large, open, white flowers, shyly hidden among their broad, dark-green leaves, in time to wish you a "Merry Christmas!"

SOIL FOR FLOWERS.

One of the chief hinderances to the more general cultivation of flowers is, no doubt, the fancied necessity of providing a special soil for each class of plants, prepared according to fixed formulas. The origin of this notion dates back to the dark ages, when even the simplest gardening operations were held as trade secrets, and those who reaped benefit from them took good care to mystify and keep them hidden as much as possible. It is well known now that plants, as well as animals, accommodate themselves to altered conditions. The *Ladies' Floral Cabinet* has an able editorial on this subject, from which we condense the following:

"The best soil for any purpose where plants are to be grown can easily be procured or prepared at your own door. Take sods from the road-sides or meadow, pile them up in any convenient out-of-the-way place, and let them rot: then you will have a soil that contains all the elements that contribute to the growth of plants. It is by no means necessary for the roots of the grass to become thoroughly rotted; all that is required is to have them killed; then the coarser the soil the better for the plants, as the roots of the plants will consume the roots of the old turf as fast as it is decomposed. Plants grown in this soil will be strong and healthy, consequently floriferous. A more rapid growth will be induced if a liberal proportion, say one-fourth, of well-rotted manure is added; in this case you will have more weeds and worms to contend with, but you will be amply repaid for all the trouble they will cause you by the increase in quantity and quality of bloom. We would advise the growing of young plants, such as are intended for the flower-garden for summer blooming, to be grown in soil without manure, providing the sod was heavy, and taken from rich soil. Plants grown in such a soil will be perfectly healthy and vigorous, and, when planted out in the rich soil of the garden, they will have strength to assimilate all the food there is in store for them, and they will make a far stronger and more rapid growth than if started in a very rich soil, where all the other conditions of growth were unfavorable.

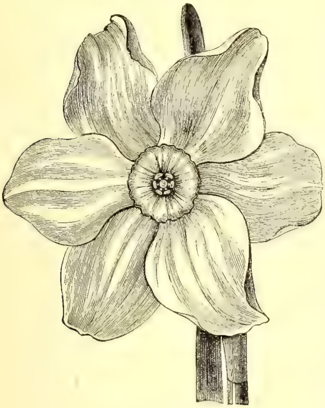
"We do not say that some soils are not better for certain plants than others, and that good peat or leaf-mold would not materially benefit a stiff, clayey soil for exotic plants. On the contrary, we say that certain plants are indigenous to certain soils and localities, and will thrive better in their native soil than anywhere else; yet a soil in which any plant is found in its native state is not necessary for its perfect development. And further, we know from our own experience that many plants will not succeed as well in a soil that is natural to them, if grown in a different country, where the climatic and other influences are entirely different; for instance, the Cactus, or at least most of this genus, is found wild, growing in dry, arid wastes; now introduce them into our green-houses, and undertake to grow them in soil brought from their native *habitats*, and the result will be a failure. Why? Simply because the other conditions of growth are not the same; there are not the same elements in the atmosphere here as in their native homes; earth and air must work in harmony together to produce the plant.

"We do not wish to be understood as saying that all plants can be grown in a clayey or sandy soil; we know very well they cannot. But we wish to say that the soil and atmosphere in any given locality are fitted for each other; so that any plant that you may wish to introduce into your garden, will, if properly cared for, succeed quite as well, if not better, than if artificial soil were procured. Work well the soil you have; if poor, give it food; put out your plants at the proper time, and you will, if impossibilities are not expected, be satisfied with the results."

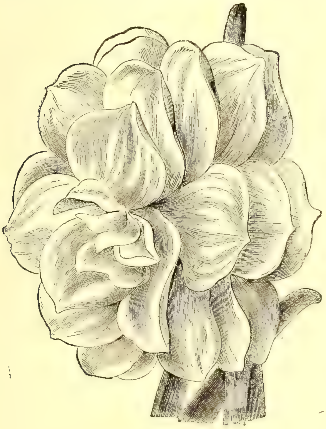
Mirabilis Jalapa, popularly known as "Four o'clocks," can be preserved and re-planted in the same manner as Dahlias. Two-year-old plants produce more flowers and give better satisfaction than those grown annually from seed. The roots should be planted in the open ground, about the first of May.

NARCISSUS.

Among the plants commonly known as Dutch Bulbs none are more valuable for border decoration than the Narcissus in its many species and varieties. Some kinds are among the oldest inhabitants of our gardens. Who is there whose early memories are not associated with the bright-yellow "Daffy-down-Dillies," or the fragrant white Poet's Narcissus, with its rich crimson-circled eye? These and many other species equally good, though not so common, are flowers for the people. They are hardy and sturdy—once planted, they take care of themselves, and the clumps grow stronger year by year. Every spring, in spite of cold winds and late snows, they push up the stout green leaves, between every two of which is the flower-bud, which soon bursts into bloom. They need no special culture, but make themselves at home anywhere, and nowhere are they out of place. In city yards they give bright and early bloom; in a rich garden soil they flourish wonderfully, and they are especially adapted for planting on sunny slopes, in woods, or on the borders of shrubberies.



NARCISSUS POETICUS.



DOUBLE NARCISSUS.

Of the Poet's Narcissus there are but two varieties, the double and single flowered, of which the latter is preferable; but of the Daffodil we have many species and varieties, tall and dwarf, very double, or with only a rich golden central hoop, and in color ranging from white to the deepest orange. In all these there is not one which is not worth growing, and a collection of Daffodils is a most attractive feature in the spring garden.

Then there is the Jonquil—bright-yellow, single or double—very free-blooming and deliciously fragrant. The "Hoop-petticoat" Narcissus, well known more than a hundred years ago, is a little gem of a flower; not as hardy as others, and somewhat rare, but just the plant for one who wishes a pet, which will well repay the care he receives.

The Polyanthus Narcissus are well worthy of attention, and are especially adapted for forcing. Their profusion of flower, rich fragrance, and fine colors, all recommend them for general culture. The early Roman may be had in bloom in the house by Christmas if the bulbs are potted in October. These varieties are a little tender, and if planted out of doors the bulbs should be set at least three inches deep, and the bed should, during the winter, be protected by a thick covering of strawy manure.

All the Narcissus are suitable for forcing, requiring only to be potted in light, rich soil, kept in the cellar until the roots have developed, and then brought into light from time to time, to insure a succession of bloom. A very small outlay will buy a large collection of the more common kinds; some of the bulbs cost only a few cents each, and even the rarest varieties are not very expensive.

Plant the bulbs from October until the ground freezes, and with no further care they will, in April and May, give you a bright spring greeting.

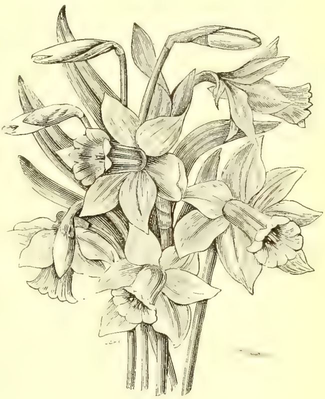
E. S. Rand, Jr.

ABOUT ROSES.

Although Roses will grow under adverse circumstances often, it well repays to give them good treatment. The soil for all kinds of Roses most suitable for their welfare is a good stiff loam well enriched with well-decomposed cow-manure. Unless heavily manured, loose, open soil will not produce good Roses. During dry weather in summer a good mulching of some moisture-retaining material is very beneficial, and a good sprinkling of wood-ashes, soot, hen-manure, or guano over the surface of the ground, has a very beneficial effect on the number and quality of the flowers.

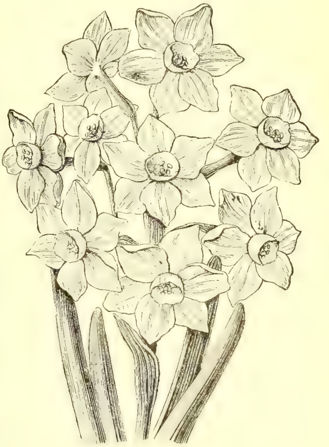
The lifting of Roses in the fall is often a great annoyance to amateurs. Many lift their Roses and try to keep all the top they can, even though three-fourths of the roots are destroyed. Now this is unreasonable to expect. Mutilate the roots of any plant and just in proportion have you to prune back the top, or else the plant will breathe itself to death. The constant evaporation from the leaves is too much for the mutilated roots to supply. As a consequence, wood and leaves shrink and dry, and the plant is destroyed from overwork. In pruning after lifting them cut out as many of the weak shoots as possible, then cut back the strong ones in proportion to their strength, the stronger the shoots and the more roots the less should the top be cut back, and *vice versa*.

The soil most suitable for potting with is well-decomposed sod and well-rotted manure thoroughly mixed together. Use pots just as small as the plants can be got into, and pack the soil firmly around the roots. The winter treatment of these newly potted Roses is often unsuitable for them. The plants should be kept cool until they make fresh roots. There is no use trying to make Roses grow without first having roots. If placed in heat in this condition, they produce a few weak shoots proportionate to the strength left in the wood, and then die: the general complaints being that bad luck attended the Roses, when the truth was they had tried to do an impossibility—live and grow without the means of absorbing food.



NARCISSUS MOSCHATUS.

Roses left in the ground too tender to endure the cold during winter and requiring protection, should be either covered up with the soil or bent down and covered with leaves.



POLYANTHUS NARCISSUS.

Plants in cold frames should be kept as cool as possible during clear weather. It is not advisable to allow the sun to heat up the pit too much, especially after a severe spell of zero weather.—*M. Milton, before the Portage Co. Horticultural Society.*

Lawn and Landscape.

THE HARDY AZALEA.

From time to time some new hardy shrub, after passing, in obscurity, a course of probation for a score of years, suddenly becomes the fashion. Every lawn must then be graced by its presence. Tree dealers throughout the summer resorts of the land lift up their voices in its praise, and one becomes wearied and almost disgusted with an excessive and too exclusive exhibition of what is, in a dozen ways, really excellent and beautiful. The Japan Hydrangea paniculata grandiflora is an instance of a plant of this sort. It is often difficult to determine just why such plants become the rage. I am inclined to think it is partly because they are rather big and showy than exquisite and enduring, splendid and massive, than refined and lovely. Certainly, the Hardy Azalea is refined and lovely, exquisite and enduring, and yet how many appreciate its many charms and practical value?

Let us look at this Hardy Azalea, so called to distinguish it from the Chinese or Half-hardy Azalea. It is, I assure you, well worth looking at, when we consider that more than one highly competent authority has pronounced it the best hardy shrub grown in the Northern States of America. But its own intrinsic merits are so evident, that, aside from the declaration of authorities on the subject, it seems incomprehensible how such valuable charms could have been neglected so long in this country, except on the false plea that showy qualities are worth more than exquisite and refined ones. See these clusters of Hardy Azaleas peeping out from the borders of a Rhododendron group. They are not as big and showy as a Hydrangea, or as splendid as a Peony; but how beautiful the purplish-green of their exquisite leaf-masses, and the wonderfully varied and exquisite tints of the waxen petals, scarce an inch across, where white, yellow, orange, and red commingle. Low, and even dwarf in habit, the Hardy Azalea, as generally seen, is not often over two feet high, though one in Central Park is over twelve feet high, we yet feel no lack in it on that account, for its proportions are good, and contour, foliage, and small flowers, bedded in rich foliage, are alike beautifully combined.

The abundant bloom of these flowers is astonishing. They literally, in some cases, cover the entire bush. Nor has the Hardy Azalea any weakness of constitution to detract from its practical value as an ornamental shrub. Unlike the Rhododendron, most splendid in foliage and flower of all ornamental plants, the leaves of the Hardy Azalea are safe from injury in winter, being deciduous, and are entirely satisfactory in summer, since they never burn. The flower-buds of few shrubs, moreover, suffer less from the effects of cold in winter and spring; so, you see, when we come to sum up the excellent qualities of the Hardy Azalea, and balance them with its objectionable ones, we find that for hardiness, long life, aptitude for safe transplanting, for exquisite beauty of flower and picturesque massing of foliage, the Hardy Azalea seems to do abundant credit to the discernment of its most enthusiastic admirers.

The best varieties of Hardy Azaleas are derived from native American species, from the orange-colored Appalachian *Calendulacea*, and more northern *nudiflora* and *viscosa*. The light yellow pontica varieties, from the Mediterranean coast, so much prized in Europe, are often injured in the bud by severe American winters.

The Hardy Azalea, frequently called the Ghent Azalea, from its popularity in the Netherlands, remains a choice, almost a rare, plant on American lawns, partly because, as already mentioned, it has not the strikingly showy qualities that go to the making of a fashionable plant, but principally because it is difficult to propagate, even by grafting or layers; and one of the most difficult feats the skillful propagator can undertake is to grow Hardy Azaleas from either cuttings or seed.

In order to present properly the full effect of the charms of the Hardy Azalea, irregular groups should be made with tall specimens, marking out distinguished points here and there, and clustering smaller ones on the outskirts. A few hardy Ferns, mingled with the outlines of Azaleas, add greatly to the beauty and variety of the arrangement, the boundaries of which should be entirely waving and irregular. S. PARSONS, JR.

EVERGREEN HEDGES UNDER TREES.

The subject of growing Evergreen hedges under the shade of deciduous trees is, no doubt, of interest to those of our readers who are annoyed by unsightly gaps in their hedges, often just where it is desirable to have them appear best, and the following observations of the *Gardener's Monthly* may suggest a welcome remedy:

We have seen cases where the Evergreens forming the hedge did not seem to mind the trees in the least, and yet it is clear that, in a large number of cases, the hedges do suffer from large trees over them. But it is not the shade which injures, for Evergreens rather like shade; but the trouble is from the drying out of the moisture by the strong roots of the deciduous trees, and, to some extent, by the poverty of the soil, caused by the numerous fibrous roots of the large trees eating up all the food. The Evergreens in the hedge often do not die at once, but their vital powers are injured during summer, and then cold winds, or even moderate frost, make easy victims of them.

Now, it sometimes happens that the large trees do not always take all the moisture, or all the food, and then the Evergreens will not suffer. When we feel sure these conditions will be permanent, we may plant evergreen hedges under large forest trees; but, as a rule, it is not to be commended. Some deciduous plant had better be employed.

But there are times when it may be very desirable to have an evergreen hedge under trees. In this case dig a deep trench—a trench say two feet deep—between the hedge and the trees, cutting off the roots of the trees. Do this about every third year, filling in the earth, of course, after the roots of the strong tree have been cut off, and add a little well-rotted manure once in a while. With this extra trouble an evergreen hedge can be made to do well under large deciduous trees.

Of Evergreens for hedges there are few better than the old Arbor Vitæ, Hemlock Spruce, and Norway Spruce. Scotch Pine, White Pine, and others, are sometimes used, and, indeed, any Pine or coniferous tree makes a fair hedge, as they all bear pruning well. The Holly makes a remarkably good hedge; but in our country the difficulty of raising the plant is against its cheapness, and, consequently, extensive use. Many die after transplanting in our country; but if all the leaves are taken off when transplanted, and they are treated as ordinary deciduous trees, they seldom die on removal. It may be said of all trees and shrubs, as of Evergreens under trees, that they love cool, rich soil, where water comes to them often and easily drains away. This is the great success of Rhododendron and Hardy Azalea culture. They will do well in almost any soil, or in any aspect, if the soil be made deep, so that the water will go down easily below the roots, and then easily drain away. To this end, if the soil be thrown out two feet deep, and a foot deep of brush-wood placed at the bottom of the trench before the soil is thrown in again, it will make a cheap under-drain, which will encourage the water to go down through the upper surface easily. Peat is often used for Rhododendrons, but chiefly because it is cool and moist, while still admitting of the free passage of air.

SHRUBS WITH ORNAMENTAL BERRIES.

In answer to inquiries for a list of shrubs and small trees which produce ornamental fruit after flowering, and after the leaves have fallen in autumn, the *Country Gentleman* names:

Prinos verticillatus, or Black Alder, which grows wild in muck swamps, and bears a profusion of scarlet berries, which continue through a large portion of winter. It grows well, and produces its masses of berries when removed upland.

Celastrus scandens, Bittersweet, is a climber, and with its clusters of orange-scarlet fruit may be made a graceful display in winter.

Berberis vulgaris, the Barberry, is ornamental as a shrub when in flower, and also with its beautiful racemes of berries, the purple variety being the most ornamental.

Euonymus atropurpureus, Burning Bush.

Viburnum Oxycoccus, the Bush Cranberry.

Symphoricarpus racemosus, the Snowberry.

Juniperus Virginiana, the Red Cedar, some trees of which bear a profusion of blue and purple berries, which have a singularly beautiful effect in winter, in connection with the dark-green foliage of the trees.

Sorbus Americana and *aucuparia*, the Mountain Ash, with their several varieties.

Shepherdia argentea, the Buffalo Berry, bears dense masses of orange-scarlet berries, and, being diœcious, it is necessary to have staminate and pistillate plants growing together. It is a shrub of straggling growth, but by pinching back and training, it may be brought into a symmetrical shape.

Crataegus pyracantha, the Evergreen Thorn, is a low-growing evergreen shrub, which, late in autumn and early in winter, affords a fine display of dense clusters of red berries. Being slightly tender, it should be planted in the shelter of evergreen trees.

The Window Garden
AND GREENHOUSE.

CONSTRUCTION OF SMALL GREENHOUSES.

A small greenhouse, in a plain, substantial manner, can easily be built by any handy carpenter and painter used to setting glass. A span, or equal-sided roof, should be either ten or seventeen feet wide. The one of ten feet should have a table three feet six inches wide on each side, leaving three feet for a pathway. One of seventeen feet wide should have tables two feet six inches wide on each side, and a center-table six feet wide, leaving a pathway of two feet six inches on each side. These dimensions will be found convenient for the handling and caring of plants by amateurs.

The sides should be four feet high for a ten-foot house, and may be six inches lower in one seventeen feet wide. Dressed cedar, or other hardwood posts that will not decay quickly, should be set in the ground two feet, or deeper, and four feet apart, the parts standing out to be dressed four inches square on two sides. Common boards are then nailed lengthwise to the outside of the posts, and covered entirely with thick roofing-paper; against this the outside siding of dressed matched boards is nailed. This makes a very substantial and durable wall. The plate should be one and a half to two inches thick and seven inches wide, nailed to the posts, the same pitch as the roof.

The sash-bars should be of good, clear lumber—yellow pine is best—two inches deep, one and a quarter inches wide, and, for an eleven-foot house, six feet long; the lower edges should be beveled to three-quarter inch. The rebate for glass should be half an inch deep and a quarter-inch wide. The glass should be twelve by ten or fourteen, double thick, and of good quality. For a seventeen-foot house the sash-bars should be nine feet six inches long, with purlin three by one and a half inches running across the center, supported by light rods from center stage, six feet apart.

Ventilation is effected partly through the door at one end, a movable sash opposite, and also with small sashes on the roof, every six feet, hung so as to open from the inside.

The tables are made by nailing two by four string-pieces to the posts of the wall, one foot below the plate, and other stronger ones on posts parallel with the walk. One-inch boards are then nailed on crosswise, a strip five inches wide on the back, far enough inside the house that the drip from the edge of the plate does not fall into the bench, and another nine inches wide against the front of the bench, giving a finish to the walk-side. Then, with an inch and a half auger, bore holes through the table at intervals sufficient to prevent accumulation of water. Close up these holes with temporary wooden plugs, and give the whole inside bench a coat of good cement, such as is used for cisterns, three-quarters of an inch thick. Before this has become thoroughly hard, pull out the plugs, and the bench will last from ten to fifteen years.

The means for heating vary considerably according to the size and position of greenhouses, and will be treated in another article.

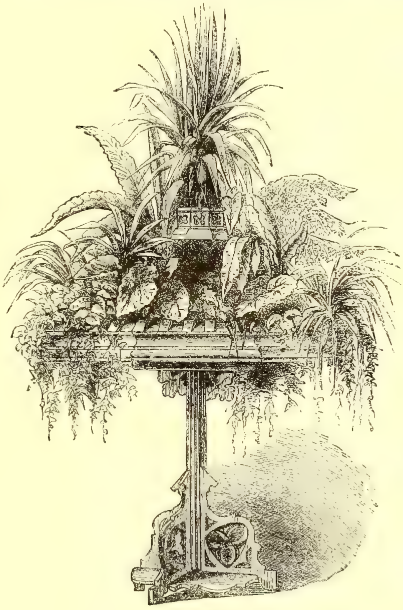
John Thorpe.

PLANT-STANDS FOR ROOMS.

Wherever plants are used for room decorations, stands of some kind must be employed, and when well designed they do much toward showing off the plants effectively.

Wire stands show the pots very plainly through their sides, and, unless a pan is set inside them, the water runs through on to the carpet.

The accompanying illustration of a stand, reproduced from *Gardening Illustrated*, which seems to answer its requirements exceedingly well, is described as being made of varnished Pine, harmonizing well with the furniture of the sitting-room and setting off the plants to advantage. The sides are neatly molded, and made high enough to hide the pots in which the plants are grown; and these sides, as well as the bottoms, instead of being painted, are well coated with Japan varnish, which protects the wood and carpet quite as well as if a tray of lead or zinc were set inside. When plants are nicely arranged on stands such as this, the latter are far more ornamental than those made of wire.



PLANT-STAND.

In the arrangement, select a bold and effective plant for the center, as, for instance, a Dracæna, or an India-rubber plant, which always look well, surrounded by Ferns, small Palms, Begonias, and trailing or gracefully drooping plants, as Tradescantias, Panicum variegatum, Lysimachia, or Selaginellas. For edging these stands, either Festuca glauca or Isolepis gracilis may be employed, and always look well; or a few succulents may be added for the sake of variety. It must be remembered that nearly as much depends on the shape of the stands as on the plants used, and it is easier to satisfy one's self when the stand is a pretty one, and shows off the plants well, than when we have to hide its unsightliness as much as possible by means of the graceful forms of plants.

In filling stands like this one, all crowding must be avoided, and as much variety obtained as possible, always remembering to vary form as well as color. During the early months of the year they may be filled with spring flowers and bulbs in pots, and, by the use of these, as they bloom in succession, a pleasing variety may be maintained for several weeks, and, with the addition of a few distinct Palms or graceful Ferns, will make very effective arrangements. During summer such a stand might be used for an effective display of cut flowers, and thus be an ornament the year round.

SOOT.

The value of soot as a fertilizer for house plants, and outdoor plants of nearly all kinds as well, is seldom sufficiently appreciated. It induces vigorous growth, and imparts freshness and healthy color to both flowers and foliage. On plants grown in pots it has a marvelous and almost immediate effect, driving, at the same time, all worms from them.

At present it may be difficult to obtain soot in large quantities, but if there were any considerable demand for it the professional chimney sweeps would soon gather and offer it for sale as an article of merchandise. Large quantities are not required, however, and the annual sweepings of the house chimneys and stove-pipes furnish enough for a good-sized window full of plants.

For outdoor use its effect is heightened by mixing it with salt in proportion of one part of soot in bulk to ten parts of salt. Or it may be mixed with any fine compost. The plants should be copiously watered after each application, to wash the soot into the ground and prevent its being blown away by winds.

For pot plants it is best used with water, a handful of soot, stirred well with three gallons of water, in a common watering-can. In watering plants with soot water it is advisable to use small quantities at the time, and more frequently, rather than to charge the soil with more carbon than the plants can readily assimilate.

As this material may generally be procured without expense it is certainly worth while to utilize it in so beneficial a manner.

A POT OF IVY.

If you have room for but one flower-pot, take an Ivy and trail it around the window. No other plant can stand as much hard usage and gives so cheerful an appearance to a room. All it insists on is cleanliness. Its leaves must, therefore, be washed at least once a week.

Miscellaneous.

WHEAT GROWING.

Of all the cereals, Wheat is the most valuable, and decidedly the most interesting to the experimenter. He can cultivate it with more satisfactory results and with greater remuneration than any or all the rest. To manage it successfully in all its stages requires much intelligence and skill.

The improvement that has been made upon it the past few years shows conclusively that half is not yet known, not only about raising, but milling it. Much, in every way, is still to be learned before all its powers can be understood and developed.

Wheat has never received that attention required to make it a success in both field and mill. This fact is clearly shown in the deterioration of the old standards. The Diehl, for instance, Gennesse, Treadwell, and others, are almost worthless. Their places are being taken by newer kinds and better.

Many successful attempts have been made to improve Wheat *by selection*, as is seen in Hallet's Pedigree, the Fultz, Clawson, etc.; but few attempts have as yet been made to go beyond mere selection. Those few consist in crossing one variety upon another,—a much higher art—the results of which are most wonderful and important. The improvements by this means are as manifest and valuable as those the stockman realizes in crossing and breeding fine animals.

The operation of crossing Wheats is very simple; but to know what to do *before* and *after* crossing is quite another thing: that is, if the experimenter desires to make a better variety.

Before, he must know the elements in his Wheat essential to good flour; he must know the characteristics of it essential to the culture of both products, as well as the probable results of combining them; he must know what kinds suit both farmer and miller best.

After crossing, and after a crop has been produced, the experimenter begins a most careful selection. As in the animal kingdom, so in the vegetable—the offsprings are of all grades, sizes, and colors. The stock-breeder selects and saves his *best*, be it pig, pup, or chick. So, with the offspring produced by crossing two kinds of Wheat, select and save the *best*.

I attribute the success attending the prosperous culture of Wheat much more to the *seed* than to soil and climate. Perfect and genuine seed of any kind is absolutely necessary—it insures more than fifty per cent. of the farmer's, gardener's, and florist's success.

My method of growing Wheat and Corn begins with the seed and ends with the seed. The soil is not much more than a receptacle to hold it and the atmosphere a feeder. In this expression I do not wish to be understood as ignoring or undervaluing the elements of the soil and air, but I wish to explode the idea most farmers entertain, viz.: that large, heavy, and tall foliage *must be made* to produce the best grain.

Why not exercise the mind a little, and make less straw and more grain—longer heads and shorter stalks? This can be done by selection and "breeding up," as the stockmen call it.

I find as much difference in heads of Wheat as the farmer does in ears of Corn. Why, then, does he not select and save in the same way? It will pay.

There have been some very fine crosses—hybrids they are called—made lately. E. C. Pringle, of Vermont, produced the Defiance and his Hybrid No. 5, which are among the finest Wheats I have ever seen. The former produced on these grounds, this year, over forty-two bushels, with but thirty pounds seed per acre, field culture at that. The latter, with but twenty pounds seed per acre and a little cultivation, yielded nearly sixty bushels.

In a subsequent number of the AMERICAN GARDEN I shall take occasion to extend my remarks on Wheat growing, making them more practical.

PROF. A. E. BLOUNT,
State Agricultural College, Colorado.

EARTH WORMS AND LIME.

I see the statement in circulation that "Mr. J. J. H. Gregory carefully collected the castings of earth worms daily for one season over a given area, and they measured nearly a quart to the square foot, or enough to raise the surface of the land half an inch. He also, by experiment, shows that an acre of land may contain six tons of worms."

Now, all florists know that lime-water kills earth worms, and have we not here an explanation of at least one way in which liming land produces such a sudden access of fertility,—in some cases out of all proportion to anything we can account for, considering lime merely as a plant food? It is on land rich in organic matter that liming shows its best results. Now, this is also the very land that is rich in earth worms, and it seems to me nothing extraordinary that the killing of six tons, or even a very much less quantity of these worms, to the acre, would result in a wonderful augmentation of its fertility. We are always glad when a mystery is explained and a problem solved.

Perhaps even the good done by gypsum, which so puzzles agricultural chemists, may be due to similar insecticide properties. It might be worth while for some of our agricultural experiment stations to investigate the matter.

DR. T. H. HOSKINS.

MEN AND SOIL.

"Separated from the soil," said Mr James Parton, the historian, in a recent lecture, "man never yet has succeeded in thriving. At best, without it, he is a potted plant, and some of the pots are miserably small. I have visited many factories in New England, and I find that wherever the operatives have a good sized garden, with access to pasture for a cow, the people are healthy, contented, and saving. Whenever this is the case, the factory population is able to live without actual starvation or extreme destitution in the event of the mills being closed for even a very long period. Whenever they are separated from the soil, as in some of our large and crowded cities, there is squalor, demoralization, and despair."

ANSWERS TO CORRESPONDENTS.

Plants for Name.—*L. M. O., Waterville, N. Y.*—The plant is *Asclepias linifolia*, a pretty greenhouse plant, indigenous to Mexico.

R. L., Mount Vernon, N. Y.—The plant described is, *Eranthis hyemalis*, Winter Aconite, one of the earliest and most interesting spring flowers. It is entirely hardy and would make a fine edging for a bed of Christmas Roses, described on another page, blooming about the same time.

Oleander.—*Mrs. T. T. H., Alexandria, Minn.*—Oleanders need but little pruning, except when they grow straggling or too large for the place where they are wintered. If cutting back becomes necessary, it should be done immediately after the period of blooming. They should be wintered in a cool place; a cellar, even if dark, will answer very well.

Hotbed Sashes.—*G. M. A., Denver, Col.*—The sashes ordinarily used for hotbeds and cold frames are three feet wide and six feet long. Professional gardeners do not use cloth instead of glass, as it forms but a very poor substitute, and costs more in the end. Any kind of muslin dipped in linseed oil and dried will do for the purpose, if any one desires to try it, but we do not advise its use.

Whitloff.—*W. P., Ashville, N. C.*—This new vegetable resembles the Chicory, and its root might probably be used for the same purpose, but the part used as a vegetable is the leaves of the heart, as a Cos Lettuce. They are eaten boiled, or prepared as a salad, which latter is the usual way. We have never eaten them though, and cannot, therefore, speak from personal experience.

Keeping Jerusalem Artichokes.—*F. D., Litchfield, Conn.*—Tubers, for use during winter, may be dug at any time before the ground freezes hard. They are not injured by frost, when covered with soil. They may be kept in a cellar, exactly like Potatoes. They dry out and shrivel easier though, and if the cellar in which they are stored is very dry, it is better to cover them with earth or sand.

Lilies.—*A. F. W., Gilbertsville, N. Y.*—Where the ground is dry, it is always better to plant Lilies in the fall, and mulch well during winter. Otherwise the bulbs should be preserved in moderately damp soil or sand in a cool cellar, and planted in the open ground as early in spring as the ground is fit to work. They should not be taken up again in the fall, as they improve by not being disturbed for a few years.

Tuberoses.—*Miss M. A. S., Toccoa, Ga.*—With good bulbs there can be no difficulty in obtaining flowers. Plant in spring after all danger of frost is over and the ground is thoroughly warm, in any good, mellow, garden soil, about four inches deep. Keep the ground around them loose and clean, and water during long continuing dry weather. The bulbs planted were probably either wintered in too low temperature or they had already bloomed the previous year

Japanese Ivy.—*E. W. H., Fairfield, Conn.*—This beautiful plant, *Ampelopsis Veitchii*, is the Japanese sister of our Virginia Creeper. It is one of the most elegant and valuable hardy climbers in cultivation, taking a firm hold on wood or stone, covering a wall or trellis in a short time. The plant is deciduous, and would, therefore, not make an attractive climber for the house in winter. Yet by drying it off in the fall it would probably bear moderate forcing in winter.

Tigridias and Anemones.—*Mrs. G. W. B., Milwaukee, Wis.*—Tigridias are tender bulbs, and should be taken up in the fall after the first frost, and not planted out in spring before the ground is warm.

Anemones may be planted outdoors in the fall or early spring; in the first case the ground should be well drained, and sufficiently mulched to keep the frost out. They may also be grown in pots or boxes in the house, giving them the same treatment as Hyacinths.

Scilla.—*E. M., Portland, Me.*—"The lovely blue little spring flower" is not Forget-me-not, "but a Scilla, probably S. amœna. It is a charming plant, indeed, blossoming with the earliest days of spring, and lasting longer than Hyacinths. It is entirely hardy, and improves by being left undisturbed in the ground for several years. The bulbs may be planted, like Tulips or Crocus, at any time before the ground freezes solid. They thrive in any good garden soil, and, considering their easy culture and unique beauty, it is surprising that they are so rarely met with in gardens of amateur florists.

Hibiscus.—*W. R. H. S., Forest, Ohio.*—Chinese Hibiscus cannot be saved by the drying process. They should be taken up carefully in autumn, planted in as small pots or boxes as possible without breaking the roots too much, watered thoroughly, and brought to a moderately warm room, when many of the flowers will open during the early part of winter. After flowering, less water should be given, half of the soft wood cut away, and the pots stored in a dry, warm cellar or room, watering them occasionally and never allowing them to become dust-dry. In spring prune back into suitable shape and plant in the open ground.

Protecting Half-hardy Trees.—*H. H., New York.*—The best protection for a half-hardy tree or shrub is a dense evergreen belt on the west side of them. Tender trees suffer generally less from the low temperature of winter than from the changes during spring when the sun starts the sap into circulation, and cold nights following bright days cause it to freeze and burst the plant cells. Small trees and shrubs may be wrapped up with straw or matting, in which case the covering should not be removed before danger of frost is over. *Eucalyptus globulus*, the Australian Fever Gum Tree is not hardy on Long Island, nor anywhere in the Northern States. The best time for pruning shrubs in general is immediately after flowering.

OUR EXHIBITION TABLE.

Niagara.—Through the kindness of *Mr. J. S. Woodward*, Secretary of the Niagara Grape Company, Lockport, N. Y., a good-sized basketful of beautiful bunches of Niagara Grapes was placed upon our table. They were of large size and fine appearance, and sweeter even than those we tasted in previous years. What surprised us most was, that they kept so long in perfect condition. Mr. W. says in this regard: They were fully ripe September 15th, but were only cut to-day, November 3d, thus showing their great staying qualities.

Prentiss.—*Mr. T. S. Hubbard, Fredonia, N. Y.*, sends a most generous sample of this new white Grape. He says: "The results of the thorough test given it in the original vineyard, at Pultney, N. Y., and in my own vineyards, meet our highest anticipations. With its vigorous habit of growth, fine, delicate flavor, immense productiveness, handsome appearance, firm skin, and its excellent keeping and shipping qualities, I claim for it a combination possessed by no other Grape." The bunches and berries were of good, medium size, and the pulp soft and of great sweetness, reminding one of the Rebecca in its good days. As a perfectly hardy, white, out-door Grape, it seems to offer considerable inducement to the vineyardist.

Po'keepsie Red.—A bunch of this new Seedling Grape was received from the owners and originators, *Messrs. A. J. Caywood & Son, Marlboro, N. Y.*, accompanied by the following card: "We send you a taste of our new wine Grape, the Po'keepsie Red, which has not yet been disseminated. It has taken the first premium, as a table Grape, wherever exhibited. It will hang without dropping, until the ground freezes, and always ripens before the 20th of August. We are compelled to send you small clusters, as the best have been used up at the fairs. It has been called the perfect Grape, because nothing unpleasant can be detected in skin or flesh." The variety is a cross between the Delaware and Iona, and partakes of some of the good qualities of both parents. The bunch is very compact, about the size of the Delaware, but of a deeper red color. The berry has no hard pulp, and is about as sweet and delicious as any Grape we ever tasted.

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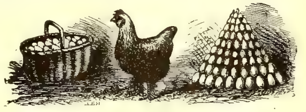

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VALUABLE PREMIUMS

To Yearly Subscribers to the American Garden for 1883.

Encouraged by the great success of our premiums sent out in previous years, and desirous to introduce the American Garden into every home, we offer special and most liberal inducements for the coming year.

All articles offered are of actual merit, and first class in every respect. Several of them are now introduced for the first time. Application for premiums should be made at the time of sending the subscriptions.

All premiums offered by mail will be sent post-paid. Those not offered by mail will be sent by express or freight, the receiver in all cases to pay transportation charges.

Every Subscriber for 1883, old or new, is entitled to One Premium, members of clubs, receiving clubbing Premiums excepted, and may take his or her choice of either of the following articles:

SEEDS.

ONE PACKAGE OF EITHER OF THE FOLLOWING VARIETIES.

American Triumph Oats.
Adamant Wheat.
Green Mountain Wheat. } *With the privilege of competing for the $210 offered as premiums for the largest yields.* (See advertisement.)

$1,000 CORNS.

Rural Dent.—Produced at the rate of one hundred and fifty bushels per acre in 1882.

Rural Thoroughbred Flint.—Ears measuring eighteen inches produced in 1882. (See advertisement.)

Bliss's American Wonder Peas, the best and earliest Pea grown.

American Racer Pea.—Very productive. Best round Pea grown.

Mayflower Tomato.—Very early; fine.

Wild Garden Seeds.—A mixture of about one hundred varieties of flower Seeds, enough to sow a square rod of ground.

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Seeds to the amount of 25 cents for each subscription.

PLANTS.

ONE OF EITHER OF THE FOLLOWING.

Clematis Coccinea.—Scarlet Clematis. A root of this magnificent new climber. A beautiful colored plate and a description of which appears in our September number.

One Bulb of Gladiolus Shakespeare; the best white variety.

One Bulb of Gladiolus Isaac Buchanan; the best yellow variety.

Three Bulbs of selected American **Seedling Gladiolus;** all different colors.

One Bulb of either Lilium speciosum rubrum, L. sp. roseum, L. tenuifolium, or L. atrosanguineum grandiflorum.

One Bulb of Hyacinthus candicans.

FOR TWO SUBSCRIBERS.

A Bulb of Lilium Harrisii—the Lily—the most exquisite novelty in this class.

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Any one subscribing for the American Garden, and soliciting other subscriptions, may obtain a *Library free*, under the following conditions:

For each subscriber, he may select, from the special list contained in B. K. Bliss & Sons' Catalogue, books to the amount of 20 cents. Special list of books mailed free on application.

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N. B. Descriptive circulars of any of these mailed free on application.

Randolph's Hand Seed Sower, for sowing all kinds of small garden seeds with accuracy and dispatch. Easily operated by a lady or child. Price, $1.50. It will be mailed, postpaid, as a premium for 3 subscribers at $1.00 each; or will be mailed, postpaid, on receipt of price.

Comstock's Seed Sower, and Cultivator Combined, for general garden purposes. (See advt.) Can be used either as a Sower or Cultivator. Price, $12.00. It will be sent as a premium for a club of 24 subscribers at $1.00 each, or sent on receipt of price, receiver to pay transportation charges.

New York Seed Drill. (See Advt.) Very simple, compact, and easy to handle. Price, $12.00. Sent as a premium for 28 subscribers at $1.00 each; or on receipt of price, receiver to pay transportation expenses in either case.

Planet, Jr's., Double Wheel Hoe, and Seed Sower Combined, or separate. (See advt.) Excellent implements; always give satisfaction. Prices. Wheel Hoe alone, $10.00. Sent as a premium for 25 subscribers at $1.00 each. Combined machine, $14.00. Sent as a premium for 36 subscribers at $1.00 each; or on receipt of price. Receiver pays transportation charges in either case.

Philadelphia Broad-Cast Seed Sower. Hand machine, price $6.00. Power machine, $30,00, for sowing evenly Grass, Grain, Fertilizers, etc We will send the Hand machine for a club of 12 subscribers at $1 00 each, or the power machine for 50 subscribers at $1.00 each; or we will send on receipt of price. Receiver to pay transportation charges.

What will the weather be to-morrow? Pool's Signal Service Barometer will tell you. Price, $1.00. Mailed, postpaid, for 3 subscribers at $1.00 each; or mailed on receipt of price.

Isbell Mole Trap will exterminate your moles. Price, by mail, $2.50. Mailed, postpaid, for 8 subscribers at $1.00 each; or on receipt of price.

Perfection Lawn Sprinkler, for watering lawns. Price, $1.40, mailed, postpaid, for 5 subscribers at $1.00 each; or on receipt of price.

Lawn Mowers. Excelsior, roller or side wheel, 14 inch cut, the most useful size; an excellent machine. Price. $17.00, offered as a premium for a club of 36 subscribers at $1.00 each; or sent on receipt of price. In either case receiver pays transportation charges.

Lawn Mowers. The Daisy. 12-inch cut; the best size for ladies' and children's use. Price, $11.00. Sent as a premium for a club of 30 subscribers at $1.00 each, or on receipt of price. In either case the receiver pays transportation charges.

Syracuse Chilled Plow.—Very light draft, durable, not easily bent nor broken, adjustable handles, etc. Prices from $7.50 to $18.00, according to pattern. Sent as premiums for clubs of fifteen to forty subscribers at $1.00 each, as follows: You can select such as you wish from their circular, multiply the price by two, and it will give you the number of subscribers; thus a $10 plow would require a club of twenty subscribers, etc.

Adamant Plow.—Hard metal, adjustable beams, light draft, slip shares. Prices from $5 to $15, according to size and extras required. To ascertain the number of subscribers necessary to secure any pattern, multiply the price by two; thus a $10 plow sent as premium requires a club of twenty subscribers at $1.00 each, etc.

Sackett Pulverizing Plow.—Cuts and thoroughly pulverizes, 10½ to 14 inches wide. Price, two-horse size, $80; three-horse, $85. Sent as a premium for one hundred and sixty subscribers at $1.00 each, or on receipt of price.

Acme Pulverizing Harrow, Clod-crusher and Leveler. (See advertisement.) No. 6. Price, $25. Sent as a premium for a club of sixty subscribers at $1.00 each.

Cycle Ensilage Cutter. (See advertisement.) Price, $50. Sent as a premium for a club of one hundred subscribers at $1.00 each, or on receipt of price.

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of this paper can find something in our Premium List that he needs in his garden or house, and there is surely no easier and cheaper way to secure it than to subscribe for the American Garden, and induce your friends to do likewise. We promise you full value received in every instance.

ON TRIAL

THREE MONTHS FOR TWENTY-FIVE CENTS.

To induce every one in whose hands this may come, to give the American Garden a trial, we will send the paper

THREE MONTHS FOR TWENTY-FIVE CENTS.

No Premiums are given to Three Months' Subscribers, but all who send seventy-five cents additional at the expiration of the three months, or sooner, become entitled to the remaining nine numbers and to *One Premium*, as if they had subscribed for the whole year at once. Try it!

BEAUTIFUL COLORED PLATES.

An elegant and artistically designed plate of a group of new Perpetual Carnations will be presented with the January number to all yearly subscribers to the American Garden for 1883.

Several other plates, now in preparation, will be presented to our subscribers during the coming year. The value of these alone is more than a year's subscription price.

CLUBBING PREMIUMS.

Subscribers clubbing together to secure Club Premiums are NOT ENTITLED to single premiums for each member of the club. But in clubs of five or more, at clubbing rates, without Club Premiums, each member receives a premium, the same as single subscribers.

A FLOWER GARDEN FOR ONE DOLLAR.

A Flower Garden for $1.00, and The American Garden for 1883, telling you how to care for it. Our Wild Garden Seed Premium will give you a square rod of flowers for the whole summer, and our paper a square meal of horticultural information every issue. What can be squarer?

"GOOD ENOUGH WITHOUT PREMIUMS,"

said a friend the other day. Yes, we know it; but our past experience shows that our subscribers appreciate the premiums we offer, and we want our new friends to reap the same benefits.

WHY NOT YOU?

Some one will get the **$210** prizes for the largest yield of Pringle's Cereals, offered among our premiums. No one can get them without trying. Who will try? Why not you?

THIS IS THE LAST

number of the American Garden for 1882. Subscribers who have not already renewed for 1883, should do so *at once*, to insure receiving the January number promptly.

Subscribe
Renew } NOW.

If you have a Garden, you need

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FARM & GARDEN
GARDEN FIELD AND
FLOWER SEED, PLANTS
SMALL FRUITS AND
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It tells **What** to plant, **How** to plant it, and is full of information of great value to all interested in gardening. Ready Jan. 1st. Price list (not illustrated) **free.**

BLISS'S
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(Ready Feb. 1st.) 48 pages. Illustrations of all the principal new and old sorts, a list of 500 varieties. It tells how to plant, cook, and store the crop, and is full of valuable information for every potato grower.

BLISS'S
Illustrated Novelty Sheet.

(Ready Feb. 1st) Contains illustrations and descriptions of all the newest varieties of Flower and Vegetable Seeds, etc. Mailed **free** on application.

B. K. BLISS & SONS,
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The American Racer Pea.

Now offered for the first time. Last season we sent it out in trial packets only to subscribers to THE AMERICAN GARDEN. The reports we have heard from all sections of the country, speak in the highest terms of it, as being very early, exceedingly productive (one party reports 58 pods all well filled on one vine), surpassing the Extra Earlies in every respect

PRICES: 1-4 Pint Package, 20 cts.; Pint, 65 cts.; Quart, $1.25, by mail, post-paid.

BLISS'S AMERICAN WONDER PEA.

BLISS'S
AMERICAN
WONDER

Extra Early, Very Dwarf (8 to 10 inches), Requires no Bushing, Exquisite Flavor.

The best variety for forcing, and the best for early sowing in the garden

Circular giving full description mailed to applicants.

CAUTION.—As there is an inferior Pea in the market called the "American Wonder," be sure and get the genuine **"Bliss' American Wonder."**

One-half pint package, 25 cts.; Pint, 45 cts.; Quart, 80 cts.; by mail, post-paid.

By express, at purchasers' expense: Pint, 35 cts.; Quart, 60 cts.; Half Peck, $2.50; Peck, $4.00. Price for larger quantity on application

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SEEDS
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Free by mail on receipt of price.

Flower and Vegetable Seeds.

Col	A	20	Vars.	Choice Annuals	$1.00
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No. 2. 15 Basket or Vase Plants in variety.
3. 10 Geraniums, 10 different sorts.
4. 10 Tuberoses, all flowering bulbs.
5. 12 Gladioli, mixed colors, all blooming bulbs.
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16. 10 splendid Carnations, 10 different sorts.
17. 6 Gladioli, 6 choice named varieties.
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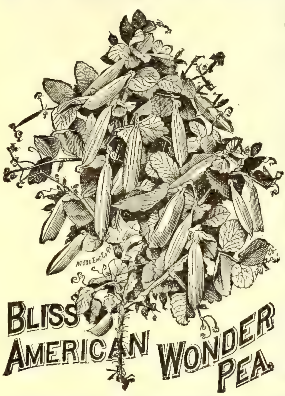
$1.25 worth of the choicest Seeds for only 50 cents!!



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Our Seeds are known the world over as *the best in the market.* In order to introduce them into every garden, we now offer our Popular Collections. ☞**12 Packets of the choicest vegetables grown, amounting at Catalogue prices to $1.25, for only Fifty Cents,** as follows: **Bliss' American Wonder Peas,** the best, earliest, dwarfest Pea grown; requires no bushing. **Mayflower Tomato,** very early, fine quality. **Genuine Bermuda Onion,** true seed of this celebrated variety. **Salamander Lettuce,** fine heads, stands drought and heat better than any other sort. **California Mammoth Radish,** very large, excellent flavor, good for winter or spring. **Arlington Cucumber,** brings the highest price of any variety in the New York Market. **Cuban Queen Watermelon,** has been grown weighing 75 lbs. **Bliss' Improved Long Orange Carrot,** selected by us for 15 years, and now the best Carrot grown. **Bliss' Improved Premium Flat Dutch Cabbage,** best late sort. **Egyptian Beet,** none better. **Extra early Munich Turnip,** 3 weeks earlier than any other variety. **Jumbo Pumpkin,** specimens have been grown weighing over **200 lbs.**

N. B.—Most of the above sorts were first introduced by us. Send to us to get the genuine.

☞**15 Packets of choice Flower Seeds, amounting at Catalogue prices to $1.25 for 50 cents,** as follows: Asters, Japan Pinks, Everlastings, Pansies, Petunias, Verbenas, &c., &c.

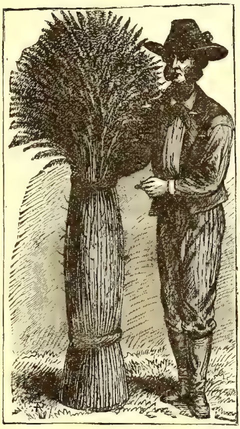
BOTH the Flower and Vegetable Seed Collections mailed for 90 cents. **For $1.00** we will add a package of our **Wild Garden Seeds,** containing 100 different varieties of flower seeds mixed, sufficient to sow half a square rod of ground.

Postage Stamps taken. Send any denomination except 3 cent stamps if convenient, otherwise, send threes. Owing to the very liberal discount already made on these collections, we can make **no substitution** for the varieties named.

Order at once and have them on hand when you want to plant. **Bliss' Illustrated Hand-Book for the Farm and Garden,** (300 illustrations and colored plate of beautiful flowers), price, 6 cents, telling you how to grow all the above, **sent free to every one purchasing** one or more collections, who asks for it at the time of ordering. Remit by Money Order, Draft, Express Order, or Registered Letter; small amounts may be sent in postage stamps. Address,

B. K. BLISS & SONS, Seed & Horticultural Warehouse,
34 Barclay Street, New York.

$210 IN PREMIUMS!
Offered for the Largest Yields and Heads of
PRINGLE'S NEW CEREALS.



We offer these cereals, with the **privilege of competing** for above premiums, among the premiums to subscribers to THE AMERICAN GARDEN for 1883.

PRINGLE'S AMERICAN TRIUMPH OATS.

This variety, now offered for the first time, is a cross between the Excelsior and the Waterloo Oats, combining, in a remarkable degree, the excellent qualities of both. To present a clearer idea of the character of its growth than words could give, we had a photograph taken from a sheaf chosen at random in the field. The man holding the sheaf was **5 feet 10 inches high,** so that, by comparison, the proportionate sizes are readily seen in the annexed illustration.

The average height, as the grain stands in the field, is six feet, yet the straw is so strong and firm that it holds up well, without lodging, the tall, luxuriant heads filled with plump, heavy grains. The quality and productiveness of the grain are unexcelled, yielding from 50 to 100 bushels per acre, according to the condition and state of fertility of the land.

The crop from which our seed was obtained has, while standing on the field, been examined by many experienced Oat-growers, all of which declared that they never saw anything to equal the "American Triumph Oats" in health and vigor of straw nor in yield and weight of grain.

25c. per packet of 1 ounce; 5 packets, $1.00.

PRINGLE'S ADAMANT WHEAT.

In this variety we have one of the hardiest and most flinty varieties in cultivation, very productive, hardy, and vigorous. It is a beardless white chaff variety, with long, narrow heads closely set with medium sized amber-colored kernels which produce flour of very superior quality. Straw yellowish white, very stiff and erect, averaging about 4 feet in height. For cultivation in the North-west, Colorado, and the Pacific Coast, where hard wheat is the favored sort, we are confident that this will be particularly desirable. Price, 25 cents per packet of 1 ounce; 5 packets, $1.00.

PRINGLE'S GREEN MOUNTAIN WHEAT.

This is another beardless variety of great promise. It has been grown for the past two years by one of the most experienced wheat cultivators in Northern Vermont, in close proximity to the Green Mountains, who pronounces it the best he has ever grown. The straw averages about 4 feet, light yellow, very strong, and free from rust Heads average 4 to 5 inches in length, somewhat tapering, kernels white, large, and plump, very hardy and productive, and well worthy the attention of every wheat grower. Price 25 cents per packet of 1 ounce, 5 packets, $1.00.

$210 IN PREMIUMS.

Every one can compete. No restrictions, except the seed must be bought of us.

In order to induce farmers and others interested in the cultivation of grain to give these varieties a thorough and universal trial, we offer $210 *in premiums* to those who produced the *largest quantity of seed* from one packet of the seed, and for the *twenty best and heaviest heads* of both the varieties of Wheat and Oats purchased of us. Those ordering will please state, with their order, that they desire to compete for the Premiums

Descriptive circulars, with full particulars, mailed free on application.

B. K. BLISS & SONS, 34 Barclay Street, New-York.

$1000 CORNS!!
THE RURAL DENT and
THE RURAL THOROUGHBRED FLINT.

Premiums to the value of nearly ONE THOUSAND DOLLARS were offered for the largest yields of these two Corns in 1882.

THE RURAL DENT produced at the rate of OVER 150 BUSHELS PER ACRE the past season Ears 12 inches in length.

THE RURAL THOROUGHBRED FLINT, equally productive, is extremely early, ripening under favorable conditions in 100 days. Has produced ears measuring 16 to 18 inches in length.

Both varieties have had most extensive trials in all sections of our country, proving everywhere of the highest value. The RURAL DENT is especially recommended for Southern cultivation on account of its immense yield, and also for its peculiar adaptedness for ensilage purposes. The RURAL THOROUGHBRED FLINT will, no doubt, fill a similar place in the Northern States, as it can be grown as far north as any variety yet produced, and yielding larger crops than other northern kinds under like conditions.

We have secured from the Rural New-Yorker their stock of these two superior Corns, which are now for the first time offered for sale

Price of Each, 25 cents per packet; 60 cents per pint, $1.00 per quart, post-paid, by mail.

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Full of NEW LIFE! More Vigorous than Ever!

Our corps of writers includes all the leading authorities on **Agriculture, Horticulture Floriculture, Stock Raising, &c.**, and many **leading popular** writers have been engaged for **1883.**

Rev. E. P. ROE, the widely known author and successful grower of SMALL FRUITS, will be a regular contributor, while MARY CLEMMER, the famous Washington correspondent, MRS. E. H. LELAND, author of "FARM HOMES," "FAITH ROCHESTER," "THE DOCTOR," "TIMOTHY BUNKER, ESQ." H. E. ALVORD, SAMUEL PARSONS, and COL. F. D. CURTIS will add largely to its interest and usefulness everywhere.

THE HOUSEHOLD

One interesting feature of the AGRICULTURIST—so popular during the past, will the coming year be continued with increased interest—namely, **The Household.**

BOYS & GIRLS COLUMNS

We have always paid special attention to the **Boys and Girls**, and **1883** will far exceed previous years in this respect.

Our exposure of HUMBUGS and SWINDLERS has saved our readers hundreds of thousands of dollars. This feature will be continued and extended.

"Your 'Humbug' columns are worth thousands of dollars to farming communities. H. T. FLETCHER, Lawrence, Ind."

SUNDRY HUMBUGS

Another prominent feature will be RURAL ARCHITECTURE, HOUSE PLANS AND SPECIFICATIONS, to which special attention will be devoted the coming year.

AMONG OUR REGULAR CONTRIBUTORS WILL BE

Prest. JOHN BASCOM, LL.D., Wis. University.
Prof. G. C. CALDWELL, Agr. Dep. Cornell Univ.
Sir J. B. LAWES, Rothamsted, England.
Prest. A. LIAUTARD, N. Y. Vet. College.
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1883

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For one year. The best Agricultural Paper published. Samples free. Liberal terms to agents. *Send for our New Premium List.* Address,

HOME AND FARM, care **B. F. Avery & Sons,**
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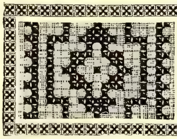

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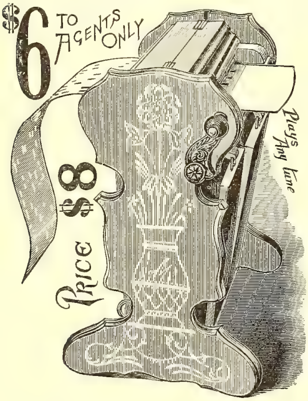

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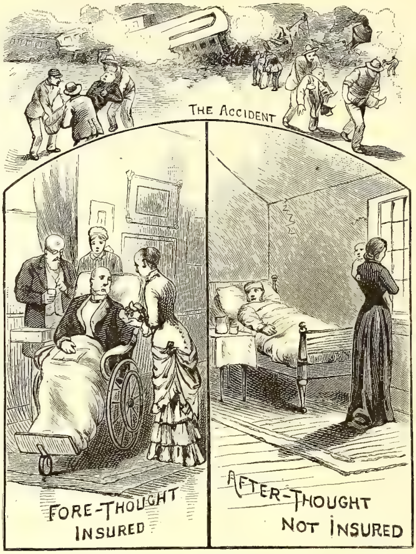

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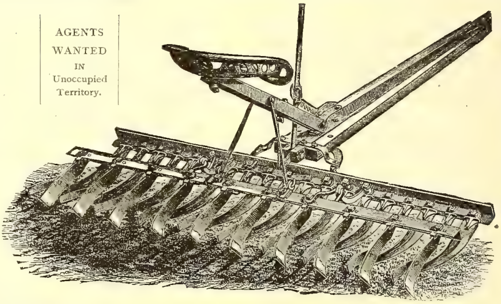

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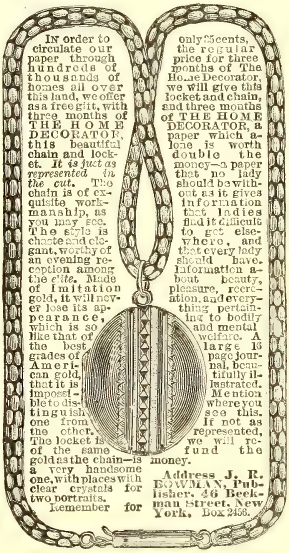

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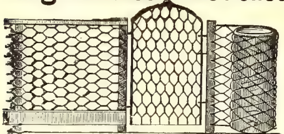

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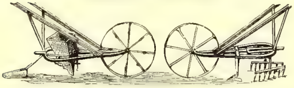

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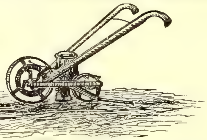

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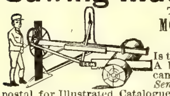

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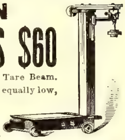

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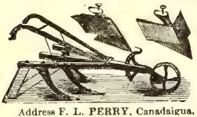

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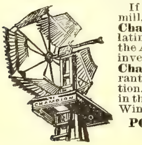

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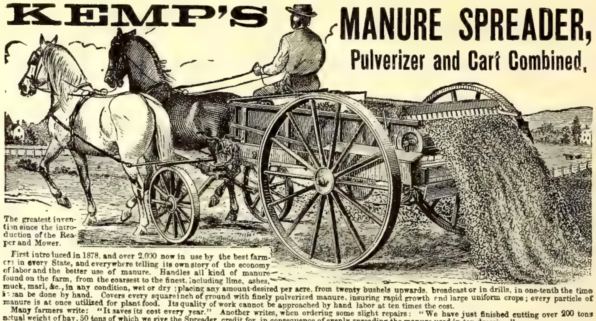

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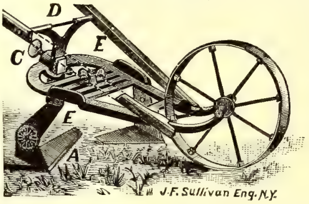

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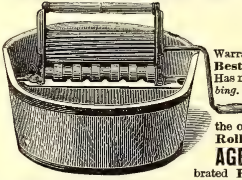

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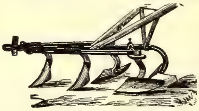

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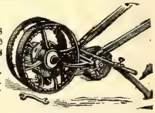

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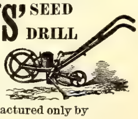

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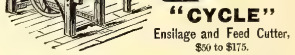

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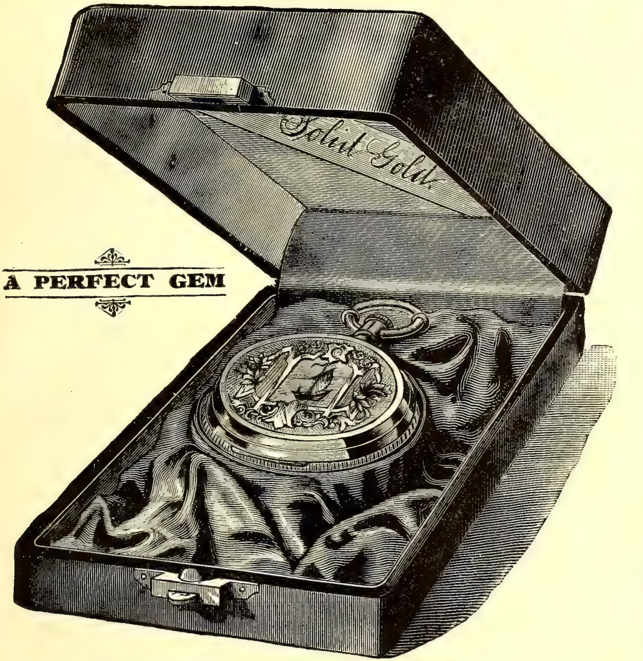

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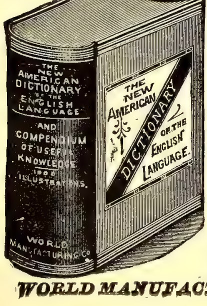
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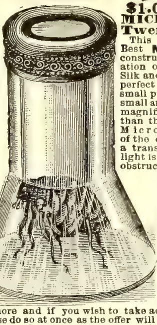

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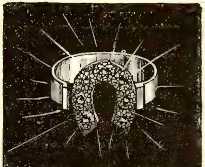

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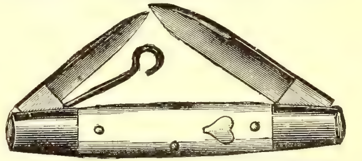

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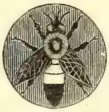

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PROFITABLE POTATO GROWING

With The Mapes Potato Manure.

Copies of letters received from MR. JESSE L. DELANO, author of the Prize Essay on Potato Culture, published in Transactions of Franklin County, Mass., Agricultural Society, 1881:

SUNDERLAND, MASS., October 17, 1882.

DEAR SIRS:

I am now in a condition to report in regard to the effects of THE MAPES POTATO FERTILIZER. I took four separate pieces of land of equal size. The land was all similar, in the same condition as near as could be taken. Planted all pieces April 19th, and gave them the same cultivation and care.

The result was as follows:

First Piece.—I gave good strong manure from the barnyard, at the rate of 40 two-horse loads to the acre, one-half plowed in and one-half put in the drill.

Second Piece.—I gave Mapes Manure, at the rate of 800 lbs. to the acre, one-half harrowed in and one-half put in the drill.

Third Piece.—I gave Mapes Manure, at the rate of 1,000 lbs. to the acre, one-half harrowed in and one-half put in the drill.

Fourth Piece.—I planted without any fertilizer of any kind whatsoever.

First Piece.—Yielded at rate of 220 bushels per acre. The potatoes were, however, quite badly cut by the wire-worms and grubs, and quite rough.

Second Piece.—Yielded at rate of 316 bushels per acre, of nice, large, smooth potatoes.

Third Piece.—Yielded at rate of 340 bushels per acre, of very large and smooth potatoes, with very few unmarketable ones.

Fourth Piece.—Yielded at rate of 140 bushels per acre, and a good many small ones among them, though smoother than on first piece.

From the foregoing I draw, that with high manuring I obtained 80 bushels per acre more than where no manure was used, but with THE MAPES POTATO MANURE I obtained **176** and **200** bushels per acre more than where no manure was used.

This is the *fourth year* I have used Mapes Manure, and I am more and more satisfied that it is the best thing to raise potatoes with in the market.

SUNDERLAND, MASS., October 25, 1882.

DEAR SIRS:

The kind of potato I used in the above experiment was the "Early Rose." I selected this variety because so many people know of its general character. I planted *three* eyes in each hill, about one foot apart in the drill. If the season had not been so dry I think the total yield would have been greater, but the comparison is just as good.

Complete manure prepared specially for each crop. Lawn Top Dressings, etc. Send for descriptive pamphlet, to be issued in January. Address

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The American Garden
W.H. Gibson del.

Vol. IV. NEW-YORK, JANUARY, 1883. No. 1.

The American Garden.

A MONTHLY ILLUSTRATED JOURNAL.

Devoted to the Gardening Interests of America.

ONE DOLLAR A YEAR.
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THE NEW YEAR.

The cheerful holidays are over, and with contented minds, with renewed strength, with fresh, confiding hope, we all reënter upon our various tasks and occupations, reviewing the past and making plans for the future. In reviewing our own past, we have, at the close of the first volume of the AMERICAN GARDEN as a monthly, ample reasons for profound gratitude. The enterprise which, a year ago, was little more than a promising experiment, has, thanks to its many good friends, fulfilled all reasonable hopes, and the AMERICAN GARDEN stands today on as solid a basis as is possible for so young a journal. The number of its patrons is rapidly increasing, and the circle of its friends is constantly extending—not within our own country only, but to every civilized nation on the globe.

We take this occasion to tender our sincere thanks to all those who in any manner have shown us their approval, who have encouraged and cheered us and lent a helping hand to the advancement of the AMERICAN GARDEN. But, good friends, we shall need your assistance not less during the new year than we did in the old; we need your sympathy, your coöperation as much as ever. With these, and the experience of the past, we promise to give you a better, handsomer, and more valuable, paper than has ever been published anywhere.

Please speak a kind word for us now, mention the paper to your friends who are interested in gardening of any kind, and point out to them the advantages of subscribing to such a publication. For this and any act or expression of good-will we shall be very grateful, and will endeavor to return the favors in the good advice andinstructions we may give you during the year.

However, it is not as a guide and adviser only that we want to serve you: we wish to become a friend of all our readers, to make them feel that we are not indifferent to their interests, and that they may safely take us into their confidences; we wish to become familiar with every nook and corner and pretty plant in their gardens, and delight in the tenderness and love with which they are cared for. We hope to be able to prove the earnestness and sincerity of our endeavor, and to deserve to find a place in your gardens, in your homes, in your hearts. To this end we shall labor and strive with all the courage and strength that is in us.

Whatever the result, whatever the success may be, we shall always have at heart the best interests of our friends and readers, to each and to all of whom we sincerely wish

A HAPPY NEW YEAR!

BOUND VOLUMES.

The two volumes of THE AMERICAN GARDEN as a quarterly and the monthly of 1882 have been carefully indexed and bound together in a handsome heavy paper cover. The amount of reliable and practical horticultural information contained in this combined volume, conveniently arranged for ready reference,—a farming and gardening encyclopædia in itself,—cannot be obtained in any similar book. There is hardly any gardening topic that is not treated in its columns.

The volume will be mailed, post-paid, on receipt of $1.50; or FREE to a club of *four* at $1.00 each, without single premiums to the members; or FREE to the sender of a club of *ten* at seventy-five cents each, entitling each member of the club to a premium, the same as those subscribing singly.

A VALUABLE PICTURE.

A beautiful and elegant colored plate of a group of the Shakespearean Collection of *New Perpetual Carnations*, described on page 6 of this number, will be presented to every subscriber to the AMERICAN GARDEN for 1883. In order to place it in the hands of our friends in as perfect condition as possible, it will not be folded with the paper, but will be mailed separately in a strong pasteboard case.

A complete *Index* to Volumes I., II., and III., of the AMERICAN GARDEN, will be mailed at the same time.

Short, concise articles on horticultural matters, and reports of practical experiments and experiences in the garden, will be thankfully received and appropriately acknowledged.

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The Vegetable Garden.

SEASONABLE HINTS.

These columns of timely reminders are intended principally for beginners in gardening, yet even those of riper experience may derive benefit from having called to mind some seasonable suggestions, and by comparing notes with others of different experiences. Winter is often considered as the gardener's season of rest, but in reality there is no season of the year in which there cannot something be done to advance the interests of our gardening operations. At this time we may improve our prospective crops materially by perfecting our plans deliberately and by preparing for the coming season's operations.

Good tools are, next to soil of proper condition, the most important requisites for successful gardening. With good, light, properly adapted tools, work, which without their use would be hard labor and drudgery, may become a pleasure and recreation. We do not advise any one to invest in every new implement he finds advertised or which the agents bring to his door, yet some of them are well worth our careful examination. The improvement in our modern gardening and farming implements has been so great that their superiority is now recognized throughout the civilized world. The time and labor saved in the use of some of them will frequently pay, in one season, for more than their cost. This is a favorable time to look over the lists of implement dealers, and to select improved tools that possess advantages over the old and worn-out ones. All the implements named in our Premium List we know to be what is claimed for them, and we are sure that no one will ever regret the purchase of a good Spading Fork, an Improved Prong Hoe, a Warren Hoe, and a Dutch or Scuffle Hoe.

Fertilizers. Although every one is aware of the necessity of a plentiful use of manure in gardening, few take sufficient pains to prepare it so as to have it in the most effective and assimilable condition. Coarse, fresh manure is of but little benefit to early and rapid growing vegetables. In order to promote their growth materially the manure used should be fine and mellow.

Composting is the sovereign means for bringing fertilizing material into the most favorable condition for gardening purposes. Of course, stable manure should always form the basis of a compost heap, but any refuse material that will rot, and for which there is often no suitable place of deposit to be found, dry leaves raked from the lawn and around the house, all decaying vines and stalks from the garden, with an occasional layer of muck, sods, or soil, house slops, soap-suds and all kitchen offal, when not utilized otherwise, add to its increase and value.

Preserving Seeds. One of the best ways to preserve small quantities of seeds is to tie them in bags, each kind by itself, and hang them upon wires in a dry, cold place. The wires should be not less than three feet long, suspended perpendicularly from the ceiling, and not nearer to a wall than three feet, else mice might be tempted to jump over on the seed-bags. The vitality of seeds is not injured by the severest cold, provided the atmosphere surrounding them be pure and dry.

HILLING POTATOES.

The question of hilling, ridging, or level culture for the Potato seems to be one mainly of conditions, the object to be attained being the same in all cases. The results of certain experiments made last year at the New York Agricultural Experiment Station, by Dr. E. L. Sturtevant, from whose report we cite these notes, seem to add force to the hypothesis that the conditions under which the Potato becomes of the best quality and most prolific, are those which secure dryness and warmth for the tuber, moisture and coolness for the roots.

The examination of the growing Potato, the soil being a strong clay, shows that the tubers, under field culture and under field conditions, are borne above the seed, while the roots extending from the eye pass downward into the soil to the depth of twenty or more inches. But few roots are to be seen occupying the upper and warmer layers of the soil, and, in general, we may say that with us the major part of the roots passed below the region of soil which would be distributed by the ordinary process of cultivation. In cases where the upper surface of the soil was purposely kept of friable texture there was a marked tendency of the tuber to approach the surface, but in the strong clay soil this tendency was not manifest.

Ridging or hilling in a clay soil brings the formation of the tuber into that region of soil kept dry by position and kept warm by the sun's rays. Cultivation with ordinary hoeing has a tendency to furnish a mulch of fine earth that protects the roots which are below the tuber from the heat of the sun's rays and checks the evaporation of the moisture from the soil below the stirred portion. Upon sandy land we may assume that level culture will fulfill similar conditions of keeping the tuber in a warm, dry, upper soil, and forcing the roots deeper into the cooler and moister strata below.

However the theory, the facts of expression based upon this view have given interesting results. The seed used in these comparisons was the whole Potato. The yield calculated to the one hundred hills may be represented in the following table:

	Pounds of merchantable tubers.
Ordinary level culture	47½
Ordinary ridge culture	83½
In ridges and the intervals mulched	92½
Potatoes covered with straw	84¼
Potatoes covered with sand	184

We may state the results of these experiments as follows:

Soil which could raise only a calculated crop per acre under ordinary level culture of eighty-six bushels, under ridge culture of one hundred and fifty-one bushels, yet under theoretical circumstances, yielded upon the same soil at the rate of three hundred and thirty-four bushels per acre.

These experiments seem to have a great significance, but there is need of more than one year's trial before we can feel assured of the correctness of this hypothesis, and yet it would be very strange if the climate of one year could be such as to lead to misinterpretation of results so clearly defined and offering such great differences.

House experiments, carried on in glass pots, and with single eyes used as seed, offer results which may be considered corroborative of this hypothesis.

GROWING HUBBARD SQUASHES.

The cultivation of the different sorts of vines has always been regarded by the gardener as one of the most difficult things connected with the culture of vegetable products. He may be successful in obtaining a good growth of vines, but unless they are productive there will be but little profit arising from their culture. The great improvements in the quality of several varieties of Squashes have produced considerable demand for them, superseding almost entirely the Pumpkin for cooking purposes.

The *Hubbard Squash* is one of the best sorts for Winter use, and, when grown under favorable conditions, is one of the most profitable crops. Its fine flavor, grain, and excellence for cooking purposes make it a general favorite with all families acquainted with its superior quality. Having grown this Squash on nearly all kinds of soil with the use of a number of varieties of fertilizers before I met with success, I propose to give my method of cultivation.

My first attempt met with only partial success. The Squash, like all kinds of vines, revels in a warm, rich loam. The soil selected was too heavy, containing too much clay, and caused the failure in part. I used hog manure in the hill, which gave a wonderous growth of vines but bore few Squashes. Another season I tried barnyard manure, using a little phosphate in the hill. The result was somewhat more satisfactory but not entirely so. The third season I used on part of the piece the contents of the privy and the success was all that could be desired. The vines grew rank and vigorously, and at first I thought to have a repetition of my first years' experience, but this was not so; the vines blossomed nicely and were well set with young Squashes, and on this part of the piece,—perhaps one-third of the field,—there were more Squashes than on the other two-thirds. One peculiarity which I noticed was the general uniformity in the size of the Squashes. There were not so many small ones, while they seemed to ripen evenly and thoroughly. Since then I have used this fertilizer with great success and have never failed to raise good crops until this season, the drouth affecting the vines to such an extent that the crop proved a partial failure.

I manure in the hill and get the fertilizers in as fine condition as possible, cover to a depth of two or three inches with good mellow soil and then plant, using a sufficient number of seeds to the hill to preclude all loss from poor seed. When the vines begin to grow, I thin out, keep the weeds down, and hoe the vines when needed. In this way I can ordinarily (the season being favorable) secure a good crop and have never found any trouble in marketing them at good prices.

In this connection, a gentleman related to me recently the following incident: Said he, "I had a vine come on my place close by my privy. I let it grow, and in due time it proved to be a Hubbard Squash. It grew wondrously, blossomed full, and was well set. The Squashes grew finely, and at the time of picking I took thirty-six Squashes from that vine." This may seem to be a big story, but his neighbors corroborated it and it only showed the affinity of the Squash for this sort of fertilizer. Let those who contemplate the growing of Squashes another season try this method and they can hardly fail of success.

E. R. BILLINGS.

CELERIAC.

The Turnip-root Celery, under which name this variety of Celery is generally sold, is comparatively little known outside of our large city markets, while on the continent of Europe it is grown to the almost entire exclusion of the stalk kinds. In these two varieties of the same species it is amply shown how much systematic and persistent cultivation can accomplish in the development of special and different characteristics. While in the one the vital energy of the plant becomes directed to the development of the leaves, in the other it is turned to the enlargement of its roots.

In Celeriac, the production of large, tender roots is the object to be attained. These roots, which are irregularly round, of the size of a large Turnip, white outside and inside, and of a texture similar to Parsnips, are principally used as a salad. They are boiled like Beets, peeled, sliced and dressed with vinegar, olive oil, salt and pepper. A favorite way of serving this salad is to arrange it in the center of a dish, and surround it with a broad rim of red Cole-slaw, edged with some leaves of Corn-salad, the contrasting colors of red, green, and white making an ornamental and attractive dish.

The sowing of the seed, transplanting and after-management, differ but little from that of common Celery, except that, as it requires not to be hilled-up, it may be planted closer, placing the rows two feet apart and setting the plants a foot apart in the rows. It should be cultivated entirely flat, and banking-up would seriously injure its root growth. To obtain large and tender roots, the soil must be loose, deep, and moderately rich, and in dry seasons a thorough soaking of water should be given every two or three days. The roots are not injured by light frosts, but they are not hardy enough to winter out-doors, and should therefore be heeled-in in a cool cellar, or kept in boxes covered with soil or sand.

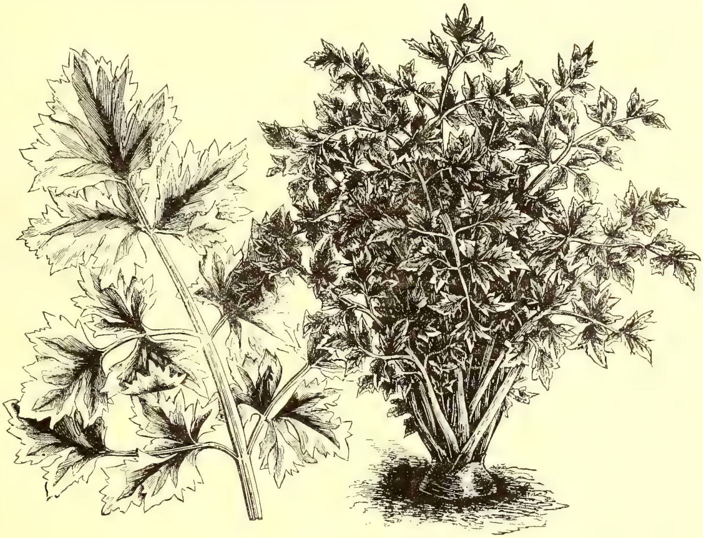
There is but little difference in the varieties hitherto cultivated, the superiority of one over another consisting mainly in the careful selection of the choicest roots for seed growing.

The *Apple-shaped* variety is considered the best for general cultivation.

Among the most highly recommended novelties for the coming season, however, we notice a variety introduced by Mr. Chr. Lorenz, of Erfurt, Germany, which has created quite a sensation in Europe, and which is claimed to possess, not only roots of good size and quality, but the additional attraction of variegated, ornamental leaves.

The *Three-colored Celeriac*, as the variety is named, is described, as in general, to resemble the old, well-known Soup-Celery, but its vigorous leaves of a deep, glossy green are richly and most elegantly streaked with a silver-gray hue in the center of the leaflets, and margined with a broad creamy-white edging. This arrangement of colors makes the variety admirably adapted for effective groups, the beautiful appearance producing a striking contrast to other plants, especially in the autumn when the petioles assume a violet-red tint, so that the plant becomes a true quadricolor.

For the decoration of dishes, and other table embellishments, leaves of this kind seem to be particularly appropriate. Our illustration represents correctly the form and general character of the plant, but only a colored plate could give an approximate idea of its brilliant effect.



THE THREE-COLORED CELERIAC.

FORCING TOMATOES.

As the production of Tomatoes during winter is frequently and favorably commented upon, the description and management of a block of houses which I designed and built on an estate where Tomatoes were forced successfully, may be of interest to many readers.

Each house was nine feet eight inches wide by about fifty-one feet long, and six feet ten inches from the path to the tie-rods of the rafters. The full height from ground to ridge-piece being seven feet eight inches, left room to carry the pipes below the pathways, which were of wooden slats, and carried on the uprights supporting the beds, which were three feet four inches wide, leaving a three-feet path in the center; a wheelbarrow could be worked in these paths, and the soil easily moved in or out. The pitch of the roof was about forty-five degrees, and the ridge ran due north and south. Some of the houses had beds formed by eight and a half inch brick walls, carried two feet eight inches above the path, and these were sometimes used for Tomatoes, but more commonly for flowering plants requiring a cool bottom. The houses were heated with from six to nine four-inch pipes each, those with the most pipe being designed for midwinter work, and also for forcing Cucumbers, if required. The pipes were half under the path and half under the bed or beds admitting them. The Tomato-houses could be maintained at sixty to sixty-five degrees, when the temperature outside was fifteen degrees below zero.

The variety generally forced was the Trophy. The soil was two-thirds rotted sod, from a limestone loam, and one-third leaf soil and rotten manure in equal proportions, with river sand enough to keep all open; it was always used quite rough, but well incorporated. Cuttings were put into four-inch pots about the 1st of September, from which fruit always ripened before Christmas.

The rafters were wired longitudinally, the wires running about ten inches from the glass. The routine consisted of tying, watering well once a week, syringing twice, and smoking twice. Fertilization was often practised during dull weather, the pollen losing its buoyancy under such conditions. The shoots, the bunches of fruit, and sometimes the flowers, were properly thinned, and a minimum temperature of sixty degrees for night, sixty-five to sixty-eight degrees for cloudy, and sixty-eight to ninety degrees for sunny days was maintained, giving air at sixty-eight to seventy-five degrees.

James Macpherson.

WATER-CRESS IN HOT-BEDS.

Where warm springs can be utilized, or sufficient protection can be given to the beds, Water-cress may be had all winter, but even those who are not so fortunately situated need not be deprived of this luxury, in relation to which a correspondent of the *Gardener's Monthly* says: "Although Cress is considered amphibious, it thrives best in an ordinary hot-bed, from October until April, and requires no transplanting. I whitewash the glass, and give very little air except when raining, to save watering, which it requires once a week. A full crop can be cut every three weeks. I generally cut one-third of a sash at the time, and so always get a succession. About the first of April a quantity of plants should be transferred to some cool, wet place, to live during summer and be ready for the hot-bed in the fall."

The Fruit Garden.

SEASONABLE HINTS.

Young Trees in exposed localities should be guarded against being blown over by heavy winds. If stakes are used for this purpose they must be driven in firmly and deep enough not to be thrown out by frost, else they leave the tree in a worse condition than if it had not been staked at all. Provision should also be made to prevent the rubbing of the bark against the stake; this may be effected by wrapping pieces of old carpet or straw bands around the stems. There is less danger from this cause when two stakes are used for each tree.

Mice do often a great deal of damage to young trees by gnawing off a girdle of bark clean around the stem. Their depredations are more frequent in grassy or weedy ground than where the land is kept cleanly cultivated, and more under snow than on bare ground; if, therefore, the fresh fallen snow is firmly tramped down around each tree, less damage is to be feared. Banking or hilling up with earth around the stem, a foot or more high, is a very effectual preventive, provided the mounds are kept smooth and firmly packed with the back of a spade; the snow should also be packed down on them after each heavy snow-fall. If these precautionary means have been neglected before the freezing of the ground, protection can be afforded at any time by tying strips of heavy tarred sheathing paper or tin around the base of the trees, pushing the edge into the ground, and tying the upper end with a wire or heavy string. Old tomato or fruit cans, cut open lengthwise, answer the purpose completely.

Rabbits are an unmitigated nuisance in some of our Western States, and threaten to become as great a pest as they are to the farmers of Australia. The natural aversion of the animal to blood furnishes a ready means for preventing their damage to young fruit trees. If the blood of slaughtered animals of any kind is rubbed around the stem, rabbits will keep at a respectful distance from it. A mixture of lime, water, and cow-dung is also used with success, and when only a few trees are to be protected, a light frame or lattice-work may be fastened around the stem.

Caterpillars. The eggs of the tent-caterpillar, girdling in glossy, dense, hoop-shaped clusters, small branches of Apple-trees may now readily be found, and time cannot be put to better purpose during mild winter days than to make systematic hunt for these embryo destroyers of our fruit crops. Every cluster contains from three to four hundred eggs, and it is evident how much mischief may be prevented by their destruction. With a pair of pruning-shears, fastened to a stiff pole, a man can clean a large number of trees in a day. The cut-off branches should, of course, be burned, as lying on the ground the eggs would hatch as readily as if left on the trees. By repeating this search once or twice during winter little damage need be apprehended from the ravages of caterpillars.

Fruit-cellars should be ventilated freely on all mild days, as in wintering fruit it is just as important to guard against loss from too high a temperature as from frost.

THE WHITE GRUB.

(*Lachnosterna fusca.*)

In a speech before both Houses of Congress "The Father of his Country" once said: "To be prepared for war is one of the most effectual means of preserving peace." The same principle of punctual precaution has been condensed into the common saying, "In peace prepare for war." This is the peaceful season of winter, when the gardener reviews the progress made in the campaign of the year that has closed, and should be equipping himself for the conquest that opens in the spring.

The enemies of the farm and garden are also in great part resting from their labors, and, with appetites made keen by their long winter of fasting, will be out in full force so soon as the lengthening days and high sun of approaching summer warm them into activity.

Not the least of the insect pests, both as to individual size and destructive work, is the White Grub; and now, while he is snugly tucked away under the snow and the sod, it may be well to look up his habits and history, and thus be able to recognize him on his first appearance. In its perfect state the White Grub is known by several names, the leading ones of which are: May-bug or May-beetle, June-bug or June-beetle, and Dor-bug.

These clumsy beetles come from the ground in May or June, as the above names suggest, and are familar to all on their visits upon the family, especially at evening when, with the windows and doors open, they beat their heads against the wall or burn their wings at the lighted lamp.

The beetle is about an inch long, of a dark chestnut color, and more or less covered with a yellowish down upon the breast. In this state the June-bugs do much damage to fruit and other trees. It is fortunate that they soon pair, after which the females quickly enter the earth and lay their eggs, and soon die. The eggs hatch in a few weeks, and the young grubs live upon the small roots of various plants. In the second year they make their presence felt; they work just below the surface of the soil and feed upon any roots that may be within their reach.

In this way much damage is done by the White Grub to the field and garden crops; it revels in the strawberry bed as well as in the flower garden, and does much mischief to the lawn; in fact, the roots of trees are not free from its destructive attacks.

The grub is full grown in its third year, and is then a plump, dirty white "worm," sometimes nearly as large as one's little finger. It is usually found with the body curved into a semicircle by bringing the mahogany-colored head near to the somewhat hairy posterior extremity of the body. During the third season, the White Grub, having reached its full size and done much mischief, forms an earthen chamber around itself by sticking particles of earth together with an adhesive fluid, and in this it assumes the inactive, or pupa state. In May or June the chrysalid changes into the perfect state, or beetle, and the cycle of the changes of this insect is completed. Eggs are again laid in the earth, and in a short time a new generation of the white grub enters on its underground life of destruction in either the farm or garden soil.

REMEDIES FOR THE WHITE GRUB.

As might be expected from the duration of the larval or grub state, in each locality the perfect insects or beetles are more numerous once in three years than at other times. They may be so abundant as to literally cover the trees during the short time that they remain above ground, and can be shaken from the trees upon sheets, and destroyed. The fact that they are attracted by light may be used to advantage. Traps, consisting of a lamp throwing a strong light, with a tub of water beneath, can be used with success in destroying this pest. Several lanterns have been devised especially for lighting the June-beetle on its giddy way to destruction; the "bugs" strike against the glass of the lamp and fall into the tub of water.

There are a number of natural remedies, among the chief of which is the crow. There is no doubt that this much-abused bird knows that a tender morsel lies at the base of a young spear of corn; but for the most of the year the crow is busy destroying insects, and for this it should be protected. The skunk likewise is fond of the beetles, and does a good work in keeping this pest in check.

There is very little to be done with the white grub, as it works underground, and is out of reach. When the sod of the lawn has grown brown, and can be lifted like a blanket from the earth, it should be removed and the worms exposed to the birds, or otherwise destroyed. Swine will get a majority of the fat grubs out of an infested pasture. There is a fungus that grows upon this pest, and it is hoped that its tribe will increase until we need not look further for the complete eradication of the White Grub from all cultivated soil, either of the farm or garden.

DR. B. D. HALSTED.

FRUIT IN ENGLAND.

"No attempt is made," says Professor Budd, in a letter to the *Iowa Homestead*, "at Chiswick—or elsewhere, so far as I have seen—to grow Grapes in the open air. The climate is too moist and cool; very fine Grapes are grown by almost all land-owners under glass.

"Currants are grown in tree-form almost exclusively. Gooseberries are here in their chosen land. The size is fabulous. Quality, to my taste, is below our Houghton. The Strawberry here exceeds my expectation. The crops are as bountiful and the fruit as large as that of our best varieties in Iowa, but the quality is far below our Charles Downing, or even Crescent and Cumberland Triumph."

APRICOT WINE.

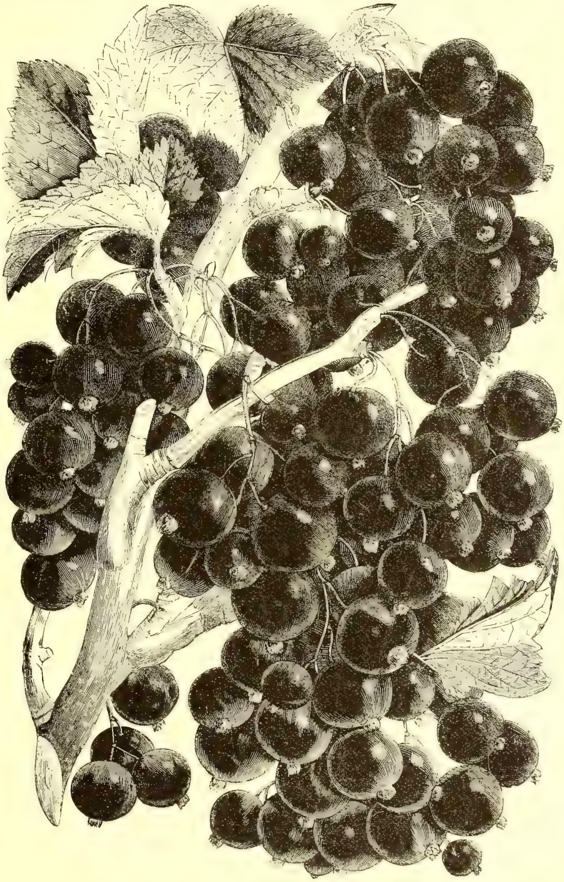
Among the numerous products of Southern California the Apricot seems to be not the least in importance. It grows there in greatest luxuriance and abundance, but, so far, it has been used only fresh and for drying. It is now stated that excellent wine, equaling in quality some of the celebrated brands of foreign wines, has been made from ripe Apricots. That a fruit so luscious and sweet should produce good wine does not seem at all improbable, thus extending its cultivation and adding another profitable industry to the Golden State, already so lavishly endowed with Pomona's treasures.

THE BLACK CHAMPION CURRANT.

Black Currants have thus far not become as popular here as the red and white varieties. Their strong musky flavor is not agreeable to some persons, while others are very fond of it. In English market reports we find Black Currants frequently quoted at higher prices than red ones. In our own markets the demand for them is steadily increasing from year to year, so that, no doubt, more attention will soon be given to their culture. They certainly have that advantage over other kinds that they are unmolested by the attacks of the Currant-worms. They are also more vigorous and hardy than the other varieties, and, except the annual pruning, require hardly any care after being once planted.

The accompanying illustration, reduced to four-fifths of the natural size, represents the new variety "Black Champion," now introduced from England. It was awarded a first-class certificate by the Royal Horticultural Society, and was pronounced by the committee the finest Black Currant they had ever seen. The berries are of remarkably large size, globular, and jet-black. The bunches are very long, and the flavor of the fruit is said to be particularly luscious and delicate. The extreme fruitfulness and robust habit of the plant, as well as its power of resisting drought, are also mentioned as important features.

A Black Currant of larger size and milder flavor than the older kinds cannot but prove a desirable addition to our fruit list, and will no doubt find a permanent place in our fruit-gardens. Black Currants are also used extensively for jellies and conserves, which, if properly prepared, are quite free from the musky flavor of the fresh fruit; it is also stated, by good authority, that no inconsiderable part of the French claret sold here consists of Black Currant juice.



THE BLACK CHAMPION CURRANT.

OLD STRAWBERRY PLANTS.

It is the all but unanimous verdict of professional fruit-growers that old Strawberry plants cannot be transplanted, and are of no value whatever for planting; consequently I have always rejected as worthless all plants that had any black roots. But some incidents of practical experience lead me to the belief that there are some exceptions to this rule, and that there are conditions under which old plants may be used to advantage.

Several years ago, the plants in one of our fields were badly damaged by the white grub, and as we had but few young plants of this variety to replace the ones lost, we dug up, about the 10th of July, an old bed that had just finished fruiting, and filled out all the vacant spaces with these, except a few rows, where we used what young plants we had. The ground was in fine condition for planting at the time; but, as we had no rain for nearly a month after it, ninety per cent. of the young plants died, while fully seventy-five per cent. of the old ones lived, and grew to be strong plants, that produced a fine crop of fruit the next season.

A market gardener who saw these old plants in bearing was so favorably impressed with them that he decided to plant an acre of just such plants. They were set out the middle of July, on ground from which a crop of Peas and Potatoes had just been removed. For a whole year I did not see nor hear anything of my friend, when I received a very interesting and pleasant letter, in which he said:

"The old plants I set out last year just managed to live through July and August. One or two good showers about the 25th of August, however, gave them a start, and they made a very rapid growth through September and October, and the middle of November, when I covered them for winter, I had as fine a lot of plants as I ever saw. . . Have just finished marketing the fruit this week, and have sold $392 worth of berries from the acre of ground; but, what is of more value to me, is the lesson I learned, that old plants are as good (if not better) than young ones for summer planting."

The varieties were Crescent, Windsor Chief, and Charles Downing, the soil a clay loam, that had been used for market gardening for a number of years, and was doubtless in just the right condition to produce fine Strawberries.

In another instance, last spring, when inadvertently all the young plants of a new and rare variety had been disposed of, we were obliged, for our own use, to dig up and transplant every plant from an old bed. For ten days after planting a cold, dry, north-west wind prevailed, yet, to my surprise, nearly all these plants grew, while a large portion of young plants near by, and planted about the same time, were killed. Most of the old plants put forth strong and vigorous runners, and by fall had the ground completely matted over with young plants, although the rows were four feet apart.

Now, after such evidences as these, must we still hold on to the antiquated idea that old Strawberry plants are worthless? Or would it not be better for every one to determine for himself by inexpensive experiments,—what I have strong proofs to believe a fact,—that for July and August planting, and especially in a dry time, old plants are preferable to young ones, and that even for spring planting they are of more value than is generally supposed.

J. H. Hale.

FIG CULTURE.

The principal difficulty with growing Figs outdoors is that the wood does not always ripen fully before winter. The conditions in this respect are quite similar to tender Grapevines: they could endure the coldest weather, provided their wood were well matured.

Small plants may be sufficiently protected by placing boxes or barrels over them and filling in the space with dry leaves or straw. Large bushes are generally laid down by digging a shallow trench along one side, loosening the roots on the opposite side, tying the branches together in a bundle, and bending all over in the trench. Roots and branches are then thickly covered with soil and straw or stalks. In spring the soil is removed again, the bush turned back, and the roots are placed in their proper position. They may also be wintered in a cellar.

The Flower Garden.

WHAT THE NEW YEAR BRINGS.

The snow lies white on hill and dell,
The streams, with ice are closing fast,
The wind sweeps through the leafless trees,
The good old year has gone at last.

The fires are kindled on the hearth,
The lamps of eve are all alight,
As the western sky grows dark anew,
And the stars come thick, this winter night.

The sleigh-bells tinkle on the breeze,
The coaster speeds him down the hill,
The skater sweeps in graceful curves,
In the sheltered valley by the mill.

Without the air is cold and keen,
Within our home is bright and warm,
And pleasant pastime rules the hour,
What reck we then of cold or storm?

New Year, with joy, we welcome you,
Although you come with breath so cold;
We greet you with our warmest smiles,
And meet you as we did the old—

In rounds of seasons, year by year,
A herald each of coming spring,
Anticipating gladdened hours,
In spring-time and its blossoming.

So as in life the seasons come,
So as in death the seasons go,
So hope will come in winter hours,
With promise bright of summer's glow.

Clark W. Bryan.

SEASONABLE HINTS.

Success in gardening, as in most other pursuits, is mainly a question of utilizing, to the best advantage, one's means and the conditions at hand, of making the most of one's opportunities. Those who leave everything for the last moment, who commence work without proper preparation, those who go to battle without being equipped and provisioned, will surely be beaten. As there is a proper season to sow and to reap, so is there a time to plan and prepare. The time to prepare for next summer's garden is now.

Soil of proper consistency and fertility is of first consideration. It should be rich, light, and mellow, yet retentive enough not to dry out too quickly. To attain the best results with flowers, the soil in the beds should be not less than two feet deep, and where the ground is not frozen too hard it is best to deepen it now, so that the frost may loosen and pulverize it during winter. Heavy, clayey soils require an admixture of sand and leaf mold, muck, or any kind of decayed vegetable matter; sandy soils are often materially improved by the addition of some heavy clay or marl; and a plentiful supply of decomposed stable manure is indispensable in either case. All these materials may be provided during winter, as well and, perhaps, easier than in spring, and to have them ready at hand when wanted will facilitate work wonderfully.

Seeds of good quality and adapted to one's wants are another indispensable requisite. The hastily filling out of an order sheet when the season for sowing has arrived, affords little pleasure and rarely gives satisfaction, while the leisurely study of a seed catalogue, during these long winter evenings, and the judicious selecting of such varieties as may seem most desirable for our purpose, affords to the true lover of flowers as much enjoyment almost as the sowing and cultivating itself.

EVER-BLOOMING CARNATIONS.

A few years since it would have been considered absurd to speak of Ever-blooming Carnations, yet persevering, patient labor and study have actually accomplished the result. We have now veritable ever-blooming varieties of this deservedly popular flower, so perpetual indeed, that plants which commenced to flower directly after midsummer, 1881, have been in continuous bloom up to this time.

In this new class, and most strikingly in the collection of nine varieties which are now known as the Shakespearean Ever-blooming Carnations, are found all the colors hitherto known in these flowers. Several of them are of the richest and most beautiful shades imaginable: rich maroon purple, the most intense and dazzling scarlet, quite new shades of pink, lemon yellow, and buff, with various markings; light flowers, marbled and blotched with salmon, lilac, rose, and other delicate colors. The individual flowers are mostly of good size, perfect shape, and free from that serious—we might almost say fatal—weakness, a burst and split calyx.

Their prolific flowering character, combined with a neat, close, and compact habit of growth, have been the qualities most difficult to secure, but these have now been well established, and constitute undoubtedly one of the most valuable features of this group, differing materially from many of the older varieties, whose shoots would ramble a yard off without showing a flower bud.

The plants mentioned above as having been in continuous bloom for eighteen months were sown in March, and some as late as April, requiring only about four months from sowing to the time of flowering. The seed was sown in pots, in light, sandy soil, and kept in a temperature of sixty-five degrees. As soon as the plants were an inch high, and their first grass-like leaves showed signs of growing, they were transplanted into very small pots, and kept near the light until the first of May, when they were planted out from time to time as opportunity offered, kept free from weeds all summer, and toward the end of September they were carefully dug and potted into suitable sized pots for the winter.

Proper soil of light, friable texture, such as may be collected about fence corners where leaves have decayed, is essential for successful culture. It should be sifted through a sieve with half-inch meshes. In sowing the seed the coarser portion of the soil should be placed at the bottom of the box or pot, filling up with the sifted. Press down the soil lightly, sow the seed quite thin, and cover with fine soil to the depth of half an inch, after which soak thoroughly with water and place in a temperature of 60°; shade from the direct rays of the sun, and when the plants are large enough transplant as described above.

Carnations for winter flowering must have all the light possible, be kept moderately wet, and in a temperature not higher than fifty or lower than forty degrees during night, allowing a rise of ten to fifteen degrees in day-time. JOHN THORPE.

[A large, beautiful colored plate of these Shakespearean Carnations will be presented to every subscriber to the AMERICAN GARDEN for 1883, and will be mailed separately in a pasteboard case, as the folding up with the paper would damage its fine finish.—ED.]

DISCOVERIES IN THE GARDEN.

I am constantly making discoveries in the garden—little things about the habits of the most familiar flowers. I think I have found out something new about the Pansy, and I am trying it now. It is not to winter the plants in the northern border where they bloom, but to shift them to warmer quarters—not to a cold pit or frame, but simply to an open bed in the garden out of the shade of the house. I noticed last spring that they had crept to the very edge of the border among the grass, away from the house, and here they were blooming gayly in defiance of winter weather. Indeed, cold weather just suits them, that is, minus the wind-storms, for they do not like wind.

I have made a new acquaintance this spring—the Perennial Candytuft—and I am enchanted with it; it is excellent for cutting, and comes into bloom several weeks before the annual variety, which it resembles closely in flower, but not in leaf. The first year it looks like the Ox-eye Daisy, but, when blooming, the foliage changes and grows very fine. It is quite dwarf and I like its behavior exceedingly, so far; try it, everybody.

Another lovely thing was Morning Glories among my trees. JENNY DARE.

THE YUCCA.

This beautiful genus of plants is restricted to the Western Hemisphere, and is found mainly in our Southern States and Mexico. With two or three exceptions, the species are more or less arborescent in growth, some even attaining a height of twenty or thirty feet. In addition to the ornamental character of the plant, the bloom is especially handsome, being of a creamy white tint and shaped like a Lily. The flowers are produced in great abundance on long panicles, rising from the center of a leafy crown. Some of the species are supplied with white thread-like filaments on the margins of the leaves.

Undoubtedly the most useful Yucca for ornamental gardening is the common "Adam's Needle," or "Bear Grass" of the South, known to botanists as *Y. filamentosa*. It is perfectly hardy at the North, blooms freely, and soon forms a large sized clump. It is almost stemless, and the somewhat rigid and spreading leaves are freely margined with white threads. Next in value we may place the *Y. recurvifolia*, an elegant vase-plant, with graceful recurved leaves of a bluish-glaucous color, and almost hardy in the Middle States; indeed, in protected situations it is very generally satisfactory. With age, the stem will reach a height of three feet, but the younger plants are more ornamental.

Y. aloifolia, also known as *Y. draconis* and *Y. serrulata*, has a stem varying from four to eight feet high, mostly branching, and surrounded with numerous very stiff, sharp, spiny leaves. The panicle of flowers is short and compact, and the color white with purplish tint. It is not hardy, but is a fine addition to the formal gardening style.

Y. gloriosa is a native of the Southern States, and is found growing in the drifting sands along the coast from Florida to North Carolina, etc. It is also too tender for the open air in the Middle States, but forms an elegant large specimen plant for vases, etc. Stem short, not often over two or three feet high.

Among the newer species in cultivation may be classed the *Y. baccata*, a native of the far South-west, extending into Mexico. It has mostly a very short stem, with leaves two or three feet long, furnished with white, thread-like filaments. The flowers are large, and the fruit resembles large dark purple Plums. It has not been very satisfactory in cultivation at the North, owing to the blight, which spreads over its entire foliage in a short time. Fruit sweet and edible.

Y. angustifolia is one of our most widely distributed and numerous species. On the plains of Colorado and Utah it is exceedingly plentiful, and in a young state very ornamental. It has proven hardy in the Middle States, and is well worthy of cultivation. It is comparatively stemless, with erect, narrow, linear leaves, very stiff and sharp-pointed.

Another of the newer species is found in *Y. brevifolia*, a native of Southern Utah, New Mexico, and California, with a stem reaching to the height of fifteen, or even thirty feet, and a foot or two in diameter. The leaves are very short, rough, and rigid, with a small, stout spine terminating each. The flowers emit a fetid odor, and are arranged in a crowded panicle.

A handsome dwarf species, known as *Y. Whipplei*, is altogether stemless, with glaucous-green leaves, and very large, showy flowers. The scape, or flower-stem, is from seven to twelve feet high, and exceedingly conspicuous. It is a native of Arizona and California, but valueless in the open air in the Middle States.

Two or three pretty varieties are known to florists, and highly prized as greenhouse plants. One of these, a variegated form of *Y. filamentosa*, has distinctly striped foliage, the almost pure white markings rendering it very conspicuous. It is yet scarce and costly, both here and abroad.

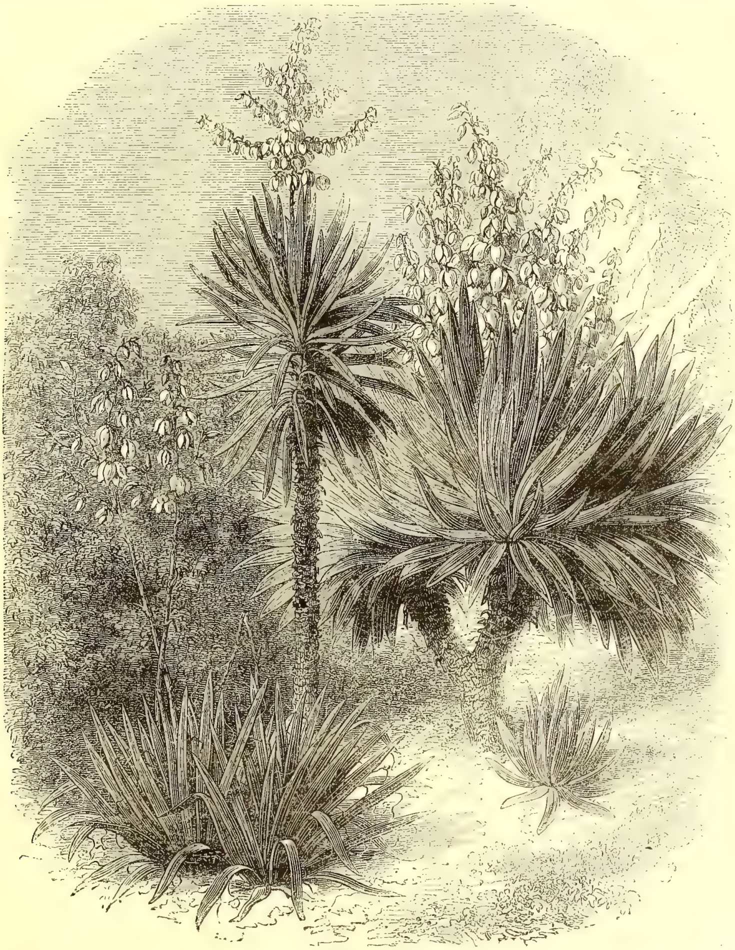
What is known as *Y. tricolor* is only a well marked variety of *Y. aloifolia*, but a distinct and showy specimen plant.

It has been in cultivation many years, and is still highly valued for its peculiar and evenly striped foliage, being alternately light and dark green, with pale yellow.

Y. quadricolor is yet another variety of *Y. aloifolia*, but the addition of a pink tint to the stripes enhances its value. The difficulty attending their propagation makes these pretty forms command a high price; consequently they will never be very plentiful in our collections.

The entire family are partial to a light, sandy soil, with plenty of drainage when grown in pots. Old rotted sods chopped up fine, with an admixture of clean, gritty sand, and no manure, is their delight. Water may be administered freely when in a growing condition, but little is needed at other times. They show to excellent advantage, and succeed admirably on a rockery, as their stiff outlines and picturesque growth render them applicable to their rough surroundings. A few hardy trailing species of Cactus look well when planted with them.

Josiah Hoopes.



GROUP OF YUCCAS

Lawn and Landscape.

HYDRANGEAS.

These are hardy or half-hardy shrubs, one species of which has long been a popular flower. *H. Hortensia*, a native of China, introduced to cultivation nearly one hundred and fifty years ago, is one of the plants we most commonly see in country cottage windows, or grown in tubs which stand around the door, where it produces its great heads of rosy flowers which last many weeks in beauty, and are always attractive. The plant is not hardy in the Northern States, as the tops are killed every winter unless well protected. True, it will shoot strongly from the root, but gives little flowers. If the points of the old shoots are killed, the incipient flower-buds are destroyed and the season's bloom is lost. When the plant survives the winter, it soon forms a low spreading bush which all summer is a mass of showy rosy flowers. As the plants can be moved easily, a good plan is to take them up in the autumn, with as much earth adhering to the roots as possible, and to winter them in a cellar, pit, or deep frame. Thus they can be replanted in the shrubbery or garden in early spring and they are well worth the trouble.

We often see in the markets little plants of Hydrangea in small pots with immense heads of bloom. This is done by striking shoots on which the flower bud was already set, which, if well rooted and cared for, at once develop the flower without making growth. The cuttings should be taken off in July from the strongest shoots and rooted in sand; potted into about five-inch pots, in a rich peaty loam; some of the cuttings will branch and make pretty shrubby plants, while those whose growth is confined to a single shoot will in all probability make a large head of bloom. If a succession is required, cuttings may also be taken in autumn when the plants drop their leaves, and by a little care in this respect, Hydrangeas may be had in bloom at any season.

The plants show better bloom when young then when grown several years, for though, in the latter case, the plant is larger and has more heads of bloom, the heads and the individual flowers are smaller. We often see the flowers a pale blue, which color is produced by mixing iron filings with the soil. Though not as showy as the bright, rosy pink color, the variety is pleasing. All the half-hardy species may be grown in the same way.

One of the most valuable plants of recent importation is the white Japanese Hydrangea, *Thomas Hogg*. The heads are very large and pure white; the plant is of vigorous habit and blooms freely. It requires the same treatment as *H. Hortensia*.

H. paniculata grandiflora is perfectly hardy, and should be in every lawn. The flowers are pure white, turning to pink before fading. It blooms in August, just when flowers are most needed in the shrubbery, and the plant fairly covers itself with snowy blossoms. *H. Otaksa* has very pretty whitish pink flowers, varying much in shade; it is only half hardy. *H. quercifolia*, as its name implies, has very large, oak-leaved foliage, for which it is ornamental; the flowers are not especially showy. *H. Thunbergii* and *H. Lindleyii* have pink flowers, and are very pretty species.

Every lawn should have three Hydrangeas, the hardy *paniculata* and the half-hardy *Hortensia* and *Thomas Hogg*, for no plants will make a better summer display. All the half-hardy species force well, and the white Thomas Hogg is for this very valuable.

R. S. E.

EVERGREENS IN THE SHADE.

The valuable article in the GARDEN for December, on the growth of evergreens in the shade calls up an experience of my own which corroborates the views expressed in the GARDEN, and may be of interest to its readers. A few years ago, I planted for nursery purposes, several hundred Small American Arbor Vitæ. On the south side of the lot was a row of Cherry trees that shaded a strip about twenty feet wide for the greater part of the day, so much that we had considered the strip useless for growing purposes, and had kept a heap of manure there.

At the time of planting the young evergreens alluded to, the manure had been nearly all removed, and in my absence the men spread what remained, and planted the trees over the space. When I saw what they had done, I decided to have the trees removed, thinking they would not do well.

However, for the want of time they were left for the present, —and as they seemed to grow as well as those in better light, they were left until they had attained the height of six to ten feet, at which time those in the shade were taller, better furnished (as the nurserymen say), and more vigorous, as well as of a better color, than the others.

I attributed this unexpected growth to the better nourishment the roots received, and taking the hint have since, by feeding small evergreens planted in my lawn under larger trees, kept them vigorous and well furnished.

DR. O. R. WILLIS.

WINTER WORK ON THE LAWN.

It becomes frequently desirable to improve a lawn, without going to the expense and inconvenience of plowing up and cultivating it during a whole summer. Of course a first-class, drought-resisting lawn can only be produced by thorough and deep preparation of the entire ground; yet many old, neglected, and uneven lawns could, with comparatively small expense, be so improved that they would produce a pleasing effect and answer all requirements. Winter is a favorable season for making such improvements, as when the ground is frozen no injury will be done by the teams passing over it.

All lawns deteriorate if not top-dressed occasionally. Where the surface is smooth and even, a light dressing of fine yard manure or bone-dust is all that is required; but on worn-out and very uneven ground, sufficient fine soil should be carted on to level all inequalities. Early in spring all should be carefully leveled, and where the grass has not been covered more than one or two inches it will grow through the earth in a short time; but where it is covered deeper, some grass-seed will have to be sown over these spots, raked in, and rolled or packed down.

The Window Garden

AND GREENHOUSE.

HEATING SMALL PLANT-HOUSES.

To the many who would enjoy having a small greenhouse for the keeping of a select collection of plants, without incurring a great expense, the mode of heating is a great consideration. Stoves of any kind placed within the house are always more or less deleterious to the plants, from their consumption of oxygen necessary for a proper combustion of the fuel. However, much of this evil may be overcome by evaporating pans of water placed on the stove, saying nothing of the dust which cannot be entirely avoided.

The crying want is for a simple and cheap apparatus that would be effective. Assuming that the circulation of hot water through pipes is the easiest controlled and best medium for heating small houses, why cannot those whose business it is, get up something that would meet this public want. They have, indeed, small boilers and apparatus for small greenhouses, but still too powerful for those I have in view, say from fifteen to twenty-five feet long. In these days of cheap petroleum oil, it appears to me that a proper apparatus could be made for warming purposes as well as for cooking.

I have no plan of my own, but simply throw out the suggestion to persons more expert in mechanical contrivances than myself. In placing such a boiler, heated with oil, I should not place it within the house directly with the plants, but would enclose it in some convenient place against the exterior wall with a brick enclosure, with a small door from the outside, at the bottom, that could be opened and shut at pleasure, in order to produce proper combustion, and a small opening above, through which to pass a pipe to carry off all odor and smoke. This boiler apartment need only be a trifle larger than the boiler itself, with a door opening on the inside, in order to give access for the filling and trimming of the lamp. I would have this door made of sheet iron, in order to avoid the risk of fire. An arrangement of this kind would do away with the necessity of a boiler shed or vault and save all the labor of handling coals and ashes, and prevent any damage arising from deleterious gases.

* * *

A NEGLECTED ROSE.

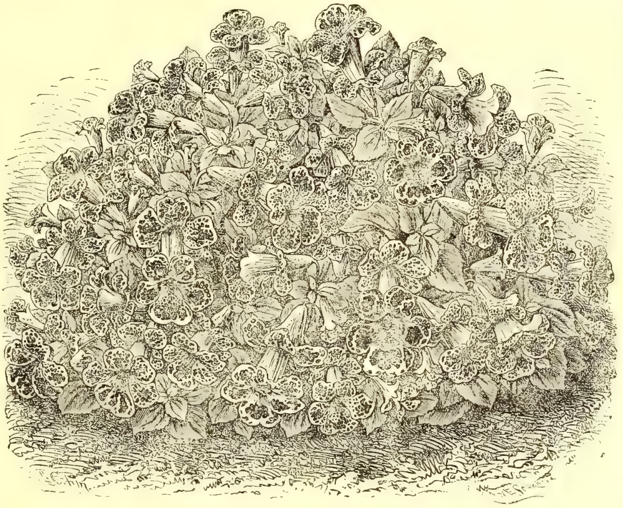
La Princess Véra is a Tea Rose, sent out by Nabonnand in 1878, which has not met with the recognition from Rosarians that its merits call for. This is not to be wondered at, because the raiser's ideas of a good Rose seem to be at variance with those held by the rest of the world. Nabonnand has sent out more than seventy varieties, but *La Princesse Véra* is the only one of his raising tested by me (except *Duchess of Edinburgh*, purchased and sent out by Veitch) that I deem worthy of a name. The Rose in question is a large, full, globular flower, with pointed buds; the color, flesh, tinted with coppery rose. It is of excellent habit, productive and beautiful, both under glass and bedded out. It is almost as good for bedding purposes as *Homer* or *Coquette de Lyon*.

H. B. ELLWANGER.

A NEW MIMULUS.

Most cultivated varieties of Mimulus are derived from *M. cardinalis* and *M. luteus*, both indigenous to this continent. Numerous hybrids have been produced from these, some of which are among the most ornamental of our hardy and half-hardy herbaceous plants. They are easily raised from seed or cuttings, and luxuriate in a rich, rather moist, and partly shaded border. They are also well adapted for house and conservatory culture, for which purpose the seed should be sown in January or February, in gentle heat. When large enough the plants should be pricked out into boxes or pans, and, when they become crowded, transplanted again in four or five inch pots. The principal objection to the older kinds was their straggling habit of growth; great improvements in this respect have, however, been made within the latter years.

The annexed illustration represents the latest novelty in this class, which introduces itself with the following short and terse name: *Mimulus nobilis* (*hybridus tigrinus, nanus compactus duplex*), which, to relieve the innocent little thing of its crushing weight, we will transcribe into *Compact Dwarf Mimulus*. It is claimed to be distinguished from all other varieties by its very compact and dwarf growth. Its light green foliage forms a complete cushion, from which arise in great profusion its brilliant flowers, varying in all shades of yellow and red.


NEW COMPACT DWARF MIMULUS.

CARE OF HOUSE PLANTS.

"Plants will grow for you; they will not for me!" said a lady, wofully, to the writer. Indeed, it was not to be wondered at that nature did not work miracles for this estimable lady—a fastidious and orderly house-wife. In the first place, everything else in her home must be attended to before her pot-plants. They were moved about indiscriminately—anywhere, to put them "*out* of the way," as it seemed. If watered once or twice a week, it was with a cold stream from a pitcher. Saucers were under them of course, which, though sometimes dry, were oftener filled with offensive stagnant water. Dead or yellow leaves were allowed to remain, to intermingle their vitiated juices with the life of the stem, and the hard surface of the poor soil was never stirred for the admission of air to the roots. They either had too much sunshine, or none at all, for days and days; but they would have long spells of ventilation in the "well-ordered" house—the cold air sweeping over them in a "broadside."

How could the naturally pretty favorites thrive, and, in responsive delight, display their inheritance of beauty?

In the management of plants in rooms it is not feasible to give them all the care and attention to details they receive in the florist's greenhouses or the conservatory. Nature is wondrously accommodating, even when modestly protesting. By mere chances that may suit plants in the humblest dwelling, various kinds may grow and bloom without particular care. "Experience is the best teacher," has long been a saying of the wise. My pleasant experience with plants in house windows has suggested the following directions, which I have learned repeatedly to observe, and can confidently recommend them to lovers of flowers, in both country and city homes, of modest means.

You cannot always combine the soil for your pots strictly according to the natural preference of each particular genus, as florists do; therefore, it is safe, with few exceptions, to mix it all alike when potting them. Good "garden-soil" will always do. This, of course, is neither sand, clay, nor gravel, but mellow mold—sandy enough to be loose, clayey enough for compact richness, light with fertile mold, which not necessarily must be "black." After plants have grown vigorously some months in the pots, it may be well to remove a little of the earth from the top and then fill again with decayed manure, or simply to water them with a very weak solution of ammonia and water—a spoonful of the spirits to three or four quarts of water, using it a few days only in succession, taking care not to sprinkle the leaves.

Always have your pots perfectly clean—well cleansed, or *scoured* inside and outside, if they have been long used, or become incrusted. Then place a few bits of broken flower-pots in the bottom, loosely,—pieces of brick will answer,—a little earth at first, holding the plant that has been taken up from a bed with one hand, while with the other gently add and press earth around the roots quite firmly—not *too* hard around the stem in filling the pot sufficiently. Amateurs often err in this particular, *not* pressing the soil around transplanted plants, or over seeds of annuals.

House plants are best pleased with the forenoon sunshine, but they may please you by doing well in windows where sun falls on them only in the afternoon. Do not seek to give them the sunbeams all day.

Keep them *out* of the saucers mostly. If your nicety *will* use saucers, be sure to wash them frequently, and, for the sake of the air in a room where you sleep or sit, as well as for the health of the plants, wash the outside of the pots occasionally. A few plants in your sleeping-room will not harm you, but, unless the room is ventilated at night, you will harm them. Never permit a dead or dying leaf to remain on a plant that is not altogether dying. In trimming stems or leaves, use a sharp knife, not a scissors, nor merely your fingers.

The water for watering plants, summer or winter, should be warm enough not to chill the hand, and should be scattered over the leaves of each one, or better, thoroughly sprinkled with a watering-pot. Unless they are vigorously growing, do not keep the ground constantly wet, but, if growing at all, let it not become like dry sand, nor *solid*.

Most plants confined in pots like to be *hoed* almost as well as corn-hills. If you have only a hair-pin at hand, when you are watching or admiring them, gently stir the earth with it all around. Do not use anything for this purpose that may disturb the fibrous roots—not "hoeing" too deep.

It is better for your plants to cut off, near the stem supporting it, every flower-stem just as soon as the blossom begins to die, and in perpetual Roses before the petals drop. By so doing you preserve the vitality and secure more flowers, and sooner. Do not let a Geranium (*Pelargonium*) cluster remain after half of its buds, or more, have opened and pleased you till the petals fall. EMILY THATCHER BENNETT.

OLEANDERS.

Their culture is of the easiest description, and when in full bloom nothing can exceed their beautiful effect. They thrive best in soil consisting of equal parts of loam, peat, and well rotted cow-manure, and should have plenty of pot-room. They may be wintered in a light, cool cellar, giving them but little water; during their growing season, however, water should be given abundantly. In fact they should never become entirely dry at that period, else the flower-buds will drop off. The proper season for transplanting is in spring, when removing them from their winter quarters. The long, straggling branches should then also be cut back, and they will soon throw out young shoots, forming handsome, bushy plants. Oleanders are apt to be infested by a whitish scale; this must be carefully guarded against by frequent washing and syringing.

Miscellaneous.

TROPICAL FRUITS.

This name comprises, in the markets of the United States, Oranges, Lemons, Bananas, and Pineapples. We may also include the Cocoanut, which is imported in large quantities, Limes, which are occasionally seen, and Mangoes, of which a few find their way to the New York market.

The Fig and the Grape as imported,—the latter dried as Raisins, and fresh, the former dried,—both come from southern temperate regions; and Dates, the fruit of a Palm, wholly from Northern Africa.

But the fruits which we have mentioned as "tropical" are but a very few of those which grow in the tropics, but which, from their perishable nature, are never imported; though a few—as, for instance, the Guava—are found in the form of jelly, marmalade, or sweet-meats. Let it be understood, however, that although we write of tropical fruits as found by us in Brazil, many of those we shall mention are not indigenous to that country, but have been introduced from other tropical countries. Of these the Orange, the Lime, and the Cocoa Palm are familiar examples.

And, first, there are in Brazil, as far as we have seen, no edible berries of any kind, either wild or cultivated. What are known in the United States as "small fruits" are entirely wanting, and this lack, to one accustomed to Strawberries, Raspberries, Blackberries, and Blueberries, no other fruit, luscious though it may be, can supply. Any one lost in the Brazilian forest would starve to death in a short time; if a few species of Palms are excepted, there is nothing to be found that can support life.

PALM FRUITS.

First in our enumeration we should mention the Palms, many of which have edible fruit; but, with the exception of the Cocoanut (the Date not being grown in Brazil) and the drink made from the "Assie" and "Bacaba," all are most distasteful to the foreign palate, although the natives are very fond of them. The remark which was once made about the wild Grape applies well to these Palm fruits: They are adapted to develop the generosity of man's nature, because one would rather give them to his neighbor than eat them himself. We have excepted the Cocoanut, the fruit of the Palm *Cocos nucifera;* but in Brazil this fruit is not nearly as good as that found in the United States, and which, we think, is mostly imported from Africa. We have tasted it in all stages, fresh from the tree and almost dry, and both meat and milk are lacking in flavor and sweetness. We had always read of the delicacy of the fresh milk of the Cocoanut: our first trial of it was a great disappointment, although we were thirsty enough on that day to make anything liquid taste good; and subsequent experiences have not increased our estimation of Cocoanut milk. The drinks made from the "Assie" *(Euterpe edulis)* and the "Bacaba" *(Œnocarpus Bacaba* and *distycha)* are sometimes agreeable to foreigners at first taste, and one soon becomes very fond of them. They are prepared by turning hot water upon the fruit, which is about the size of a marble, and then rubbing off the thin layer of flesh that surrounds the seed. If one knows the woman who makes it, one can enjoy "Assie"; but, as one sees it made,—a dirty negress, washing her hands in the purple mixture, great beads of perspiration dropping from her brow,—the effect is not appetizing.

"Assie" is of a dark purple color (rarely reddish or whitish, when made of a different variety of *Euterpe)* and tastes like the juice of a Strawberry-pie. "Bacaba" is the color of chocolate and cream, with a Strawberry and cream flavor. Both are drank with sugar, though the natives, with whom these drinks form a chief article of food, eat them unsweetened, with farinha. A drink resembling Bacaba is made from the "Patawa" Palm *(Œnocarpus Patawa);* it is richer and not considered very wholesome. In a similar manner drinks are made from the fruit of many other Palms, especially the different "Tucumas" *(Astrocarpum)* and the "Miriti" *(Mauritia excelsa);* they are yellow, and have a sickish taste. There are many Palms of which the fruit is eaten either raw or boiled. Of these the "Pupunha," or Peach Palm *(Guiliama speciosa)*, is the only one which has a pleasant taste. This tree is not found wild, and when met with in the forest always shows the site of an abandoned house. The fruit is about the size of a Plum, bright red or yellow, and is very beautiful. It is eaten boiled and tastes like a Chestnut, but has a bitter "leave off," and though the natives are very fond of it, a foreigner considers it as something which might be eaten if nothing else was obtainable.

E. S. RAND, JR.

(To be continued.)

EXPERIENCE WITH TEOSINTE.

(Reana luxurians.)

The seeds were planted about the first of April, in rows five feet wide and five feet apart in the drill, and covered three inches deep. As soon as the young plants attained the height of four or five inches I used a one-horse turning plow, with the bar as near to the plants as possible, throwing the dirt from them, and with a hoe scraped all the grass and weeds from the drill. After an interval of eight or ten days I used the turning plow again, throwing the furrow back to the young plants, using care not to cover any of the young branches, which about this time begin to make their appearance immediately from the roots of the first stalk. After another interval of about ten days I threw the remaining furrows out to the plants, which was all the work I gave it. Should weeds come up in the middle soon after the last plowing, or the ground become hard and packed from heavy rains, I would run a cultivator once or twice between the rows.

The plants soon begin to spread, throwing out from forty to fifty branches or stalks from a single seed, branching out immediately from the roots, and after they get well up need no further cultivation. It is truly a wonderful plant, yielding an immense amount of forage, and although the stalks are from one to two inches in diameter, and twelve or fifteen feet high, they are tender and juicy, and all kinds of stock seem to like them better than Corn stalks. If cut early in the summer, or when the plants are six or seven feet high, and the stubs plowed out, it will come out again and make another crop before frost in this latitude (about 32°). The specimens that I have left standing for seed are about fifteen feet high, and are as green and luxuriant now as in May or June, showing no disposition whatever to head or seed. The only objection that I can see to it as a forage plant is the difficulty in curing the stalk. But for cutting in the spring and summer and feeding green to work stock it is far superior to anything I have ever tried, as to the yield on the same ground, and the stock seem to like it as well or better than Corn fodder or any other green food. Whether it is more nutritious I have not as yet tested sufficiently to know. Some might object to it on account of the seed not ripening, even as far south as this; but I should hardly make this an objection, as it takes such a small quantity of seed to plant an acre, and it can easily be obtained each year at a trifling cost. Only one seed in the package failed to germinate; however, should any hills fail to come up, they could be replaced from a bed sown for the purpose, as the young plant may easily be transplanted.

I am very much pleased with it so far, and intend to give it a place on the farm next year. Aside from its value as a forage plant, I am of the opinion that it would be invaluable to many Southern farmers as a means of *totally* eradicating Cocoa, Bermuda, or any other obnoxious grass or weed; as, after it gets well up, its shade is so dense that no vegetation could possibly live under it.

JOHN F. WEST,
Jefferson Co., Miss.

EXPERIMENTS WITH FERTILIZERS.

The last season has been unusually unfavorable to the production of best results from fertilizers, natural as well as artificial. The long, severe drought during midsummer, which brought most crops to a stand-still, followed by a late, moist, and warm autumn, causing frequently a second growth, made almost two seasons of the year.

On Potatoes, the use of special fertilizers produced some surprising results. Four rows in our experimental field were planted without manure of any kind, the adjoining four with Mapes's Potato manure, and the next four with ordinary stable manure. All started finely and grew until the dry weather set in, when the tops died down gradually and the crop was considered a loss; but, to our astonishment, with the beginning of the fall rains the rows with Mapes's manure started into new life, grew vigorously until frost, and produced a good crop of fine Potatoes, while the adjoining rows, on either side, showed but little growth and yielded a very poor crop, hardly worth digging.

WOMEN'S RIGHTS.

We firmly believe in women's rights of the right kind—the kind that gave to a Vermont woman a prize for the largest yield of Queen of the Valley Potatoes, offered by the publishers of the AMERICAN GARDEN. We hold that when in open, equal competition with men, be it as doctors, lawyers, merchants, manufacturers, or farmers, a woman achieves the best results, all credit ought to be accorded to her, and she should reap the full benefit of her ability and industry, and neither more nor less on account of her sex.

Over two hundred dollars are offered as crop premiums the coming season. Who of our lady readers will carry off the prizes?

Foreign Gardening.

HORTICULTURE IN MEXICO.

In an address on Horticultural Improvements, before the Massachusetts Horticultural Society, *Mr. John E. Russell*, Secretary of the State Board of Agriculture, gave the following interesting account of the horticultural products of Mexico, a country in which he lived several years, and with whose conditions he is thoroughly familiar.

The speaker said that the Dahlia was introduced into Europe by Humboldt early in the present century. When he was a boy, it was thought pretty good gardening in the western part of this State to get Dahlias in bloom before frost; but now they bloom much earlier. They are natives of the table-lands of Mexico, where the speaker saw them in the single form, which they always bear in their wild state, and which he thought much more beautiful than the double forms into which they have been improved by cultivation, and this opinion has gained ground of late, for premiums have been offered for single Dahlias.

In Central America he noticed that double flowers invariably and immediately returned to the single form. All plants which are biennials here, seed the first year there. He attempted to acclimate the vegetables of this latitude there, but without success. Potatoes from California returned to their original habit the first year, and produced tubers not larger than marbles. Cabbages and other plants of the genus Brassica shot up like Palm trees, and went to seed in a few weeks. The climate does not vary materially from our summer climate, but it seemed to him as though the native plants told these newcomers that there was no need to lay up a store of food, but that all they had to do was to go ahead and ripen their seed. Indian Corn takes about as long a time to ripen there as it does here,—say, a hundred days,—and in the dry season becomes fodder, which forms almost the entire food of the cattle. Potatoes give only one crop there, though he had seen two crops grown here in one season. Last year the growing season here consisted of two summers, with a dry season interjected between, which checked growth almost as much as winter—in this respect resembling the tropical climate, where a dry season comes between the wet, growing seasons.

The exports of Mexico are of very small amount in proportion to the population of about nine millions. The people are not industrious, and the products are not valuable. The Coffee tree is one of the most valuable productions. In its natural state it grows on dry, even arid land, and produces the best quality of coffee on such soils, while that grown on low, moist, rich land is inferior. The so-called "male berry" grows at an elevation of about 3,000 feet above the level of the sea. The high table-lands in the southern part of the country are well adapted to its growth. They are, however, too high for the Sugar-cane, which requires rich, warm bottom lands. These also are found in the southern part of the country, and there it can be grown year after year. Cochineal is abundant; the Cactus on which the insect which produces the dye is found flourishes well. Corn cannot be grown as well as in the northern part of the United States. The greater part of the Indigo used in this country comes from San Salvador in Central America. The manufacture of this dye requires a great deal of careful and skillful technical work, and hence its cultivation is not likely to become extensive.

The agriculture of Mexico has been much injured by the many revolutions, which forced the laborers away from the haciendas into the army, and thus brought about a slovenly condition of agriculture. The country may be described in the words of the missionary hymn, "Every prospect pleases, and only man is vile." A sea-captain who had traded to Mexico, when asked about the manners and customs of the natives, replied that their manners were bad and their customs were nasty. Here the speaker saw the spectacle, which would be incredible to temperance reformers, of a people absolutely abandoned without whisky. In Mexico and Central America drunkenness is almost unknown, but the people are bad.

Mr. Russell did not think Apples could be grown in Mexico, even on the high lands. Peaches can be grown; he saw them dried and pressed into boxes, and called matacatunes by the Indians. Figs grow in every part, and Pineapples in many parts. The Pineapples of commerce compared with those ripened on the plant as a wild pasture Apple compares with a Baldwin. Oranges are produced wherever the ground is not too high. Grapevines in Central America grow most luxuriantly, but produce no fruit.

HOW A BOTANIC GARDEN IS FORMED IN JAPAN.

The following extract from a report from Hakodate, Southern Yesso, says the *Gardener's Chronicle*, will indicate the aptness of these intelligent people, the Japanese, to seize a new idea from a foreigner:

"An inkling was given to three of the principal native storekeepers, by a lady, to start a botanical garden. The idea was jumped at, as this was the very thing they had always desired to have, the Japanese being so very fond of flowers, and more especially of foreign flowers; but the individuals in question, who are brothers, did not know how to set about it, and what seeds to order, and, when they had them, what to do with them.

"Accordingly a plan for a garden was drawn up, and some one having an idea of gardening was engaged, after which a spot of ground was selected most suitable for a flower-garden; but when application was made for it, the Kaitakushi took the matter in hand, and has now started a public garden, the foreign directress still being consulted on all matters. In order to give it the character of a public undertaking, every ward of the town was induced, in succession, to work there one whole day, besides regular coolies paid by the Kaitakushi. When the whole town had thus contributed its quota of labor, all the singing-girls of the tea-houses, with the other inmates of these establishments, dressed up in gay colors, were engaged there one whole day in smoothing down the paths with a stone fastened to ropes handled by about a dozen girls each, singing and dancing all the time; and, to crown all, one Sunday all the officials, from the highest to the lowest, dressed in laborers' working-clothes, were engaged in finishing the 'fusiyama' of the garden, without which no Japanese garden is complete."

IMMORTELLES.

The Immortelle (*Helichrysum orientale)* is principally cultivated in warm situations on the shores of the Mediterranean, where it flowers in June, or at the earliest in the end of May. It generally thrives better in barren, dry soil than in that which is rich and fertile. It produces little seed, and therefore it has to be propagated by means of cuttings, which are secured in the month of July. These are inserted close together, in well prepared, shady ground, and afterward moderately watered. From fifteen to twenty days afterward they begin to develop roots and new leaves. In the following spring they are transplanted, after all danger from frost is over. The ground is prepared for their reception by being dug about three or four inches deep, very little manure being added.

With a view to getting the plants well established, the flowers are not gathered the first year. In harvesting the crop the heads are cut off before the buds open, each head containing some twenty flowers; well established plants produce sixty or seventy stalks, and a plantation will continue productive from eight to ten years, the flowers being gathered only once in two years. These flowers dried, and dyed sometimes green, red, and black, are much used for crowns and wreaths for the decoration of cemeteries.—*Gardening Illustrated.*

OUR EXHIBITION TABLE.

Jefferson Grapes, from *Mr. J. G. Burrow, Fishkill, N. Y.*, received December 15th, after having been off the vines for six weeks, were still in very good condition, proving their extraordinary keeping quality. The berries were very sweet, high flavored and delicious, and as free from pulp as a Grape can well be.

Dried Apricots and Plums from *Mr. Joseph Sexton, Goleta, Santa Barbara Co., California.*—A box of each arrived in excellent order, and were admired by all who saw them. The Apricots especially looked as fresh and bright as if they had been but a few hours off the trees. If the freight charges will not increase the price too much, dried fruit of this quality should find a ready market in the East.

Queen of the Prairie Corn.—A basketful of very large, well-filled ears of this variety is exhibited by *Mr. Henry S. Kipp, of Bergen Co., N. J.*, who also favors us with the following interesting and valuable communication in relation to it:

"My experience at farming during the last fifty years warrants me to say that this Corn has no equal; it comes nearer the mark than any I have heretofore planted. It has advantages that no other Corn possesses. *First.* It will grow in a poorer soil. *Second.* It grows no suckers. *Third.* It grows quicker and comes to maturity sooner. *Fourth.* Three bushels of ears will shell two bushels of Corn.

"I planted about five acres of this Corn near the middle of June. The ground was wet, low, and miry (not accessible by horse). I cut holes with a hoe, varying from two and a half to five feet apart, and dropped in each hole three grains of Corn, and covered them up. Nothing more was done, and the yield was seven hundred and fifty bushels of Corn.

"I still gave it a further test. I planted on the upland six rows of this Corn in the same field with other Corn, all served alike. When ripe, I husked the six rows and six adjoining. *The Queen of Prairie* beat it two bushels. That convinces me this Corn is now the best in use."

BOOKS AND PAMPHLETS RECEIVED.

Niagara.—A pamphlet descriptive of the Niagara Grape and containing many testimonials of the press and pomologists. Issued by the Niagara Grape Co., Lockport, N. Y.

Prentiss.—Circular giving description, history, and a large number of testimonials in regard to the growth, health, and market value of this Grape. Issued by T. S. Hubbard, Fredonia, N. Y.

Ellwanger & Barry, *Rochester, N. Y.*—Descriptive Catalogue of Ornamental Trees, Shrubs, Hardy Perennial Plants, new revised edition, with a beautiful colored frontispiece of *Weigela candida.* The pamphlet contains condensed and clear descriptions of all the most desirable hardy ornamental trees and shrubs, together with valuable directions for planting, pruning, and general treatment of them.

New Jersey State Horticultural Society.—Programme of the Annual Meeting to be held at Freehold, N. J., on January 9th and 10th. These meetings, which are attended by the most successful and progressive farmers and horticulturists of the State, are always interesting and enjoyable as well, and this being in one of the richest agricultural regions, promises to be as successful as any ever held by the Society.

New York State Agricultural Society.—"November Bulletin."—From the two hundred and thirty-four replies of correspondents, residing in every county in the State, it is seen that the more remarkable characteristics of the season were the improvement, beyond expectation, of the Corn crop, and the disappointment, very generally, of the early promise of the Potato crop. The severe drought affected all but the most northern counties, and the reports of the condition of autumn-sown grain are, consequently, with some notable exceptions, more or less unfavorable. The failure of the Apple crop is general, except in the northern counties.

Massachusetts Horticultural Society.—"Transactions for the Year 1882. Part I."—These reports are always distinguished by their careful editing and the great amount of useful information contained in them. The one before us is in nowise inferior to its predecessors. It contains, in addition to an eloquent address by the president, Hon. Francis B. Hayes, valuable papers on Ornamental Arboriculture, Apple and Pear Culture, New Varieties of Pears, Hardy Herbaceous Plants, Vegetable Culture, Flowering Plants, new and old; A List of Trees and Plants growing in the Garden of Hon. William T. Brigham, in Boston; Mineral Constituents in Plant Growth; Yellows and Fungus in Peach Trees.

Complete Guide to Silk Culture, by *L. Capsadell,* published by W. B. Smith & Co., New York. In this little volume the author, Secretary of the New York Silk Exchange, has given in the shortest possible space concise and practical directions in every detail of silk culture; Silk-food Trees, and how to Raise them; Cocooneries; Eggs, and how to Hatch them; the Rearing of Silk-worms; Races, Varieties, and Value; Gathering, Stifling, and Packing Cocoons; Reproduction; Reeling, and Spinning, and Requisites for Silk Culture are plainly described and illustrated. The wide and promising field which, at present, is opening for American silk culture, which cannot but develop into a most important industry, in the near future, makes the publication of such a work most desirable.

A History of Paper, its Genesis and its Revelations. Origin and Manufacture, Utility and Commercial Value of an Indispensable Staple of the Commercial World, by *J. E. A. Smith.* The author, commencing with the earliest records of printing, the inscribed bricks of Babylon and Nineveh, antedating even the civilization and the papyrus of the Egyptians, traces clearly and interestingly the connection between the invention of printing and paper, and the reasons for the delay of both. He describes all the articles used in the place of modern paper before its invention, their gradual development to hand-made paper from vegetable pulp, the Rice, Silk, Bamboo and Bark papers of the Chinese, following through all the varied stages of improvement up to the present century—the era of paper-making by machinery. This highly interesting treatise, which is now published in a substantial and elegantly gotten-up volume, appeared originally in the *Paper World,* a handsome monthly journal, devoted principally to the interests of paper, but which, under the broad and liberal views and management of its editor, Mr. Clark W. Bryan, has developed into an organ of general industrial advancement, journalism, art, science and literature, taking a high rank among the progressive publications of the day. Both are published by Clark W. Bryan & Co., Holyoke, Mass.

ANSWERS TO CORRESPONDENTS.

Light Soil.—*Mrs. M. T. M., Clinton Co., Ohio.*—By this is understood soil that does not bake after rain. Heavy soils can be made light by adding sand and muck, and by frequent and thorough working.

Corn for Northern States.—*H. D., Greenwood, Dakota.*—For the short summers of this climate the earliest varieties are required, and the seed should be obtained from as far north as Corn will ripen fully. Queen of the Prairie, Early Canada, and Compton's Early will be the varieties most likely to ripen with you.

Seedling Potatoes.—*S. Y. K., Cadiz, O.*—Seedlings generally reach their full size during the third year from seed, and many of them even earlier. Yet the permanent character of a seedling becomes not fully developed until the fourth or fifth year. A seedling Potato which does not show decided vigor and health in its second and third year will rarely improve in this respect in after years.

Propagating Begonias.—*F. L. West, Bridgewater, Pa.*—All Begonias, and especially the Rex varieties, may be propagated by cutting the leaves in sections, so as to form a junction of the ribs at the lower end of the cutting. These cuttings should be placed flat upon sand on a propagating bench, with good bottom heat. They should be kept damp only, not wet all the time, else they will surely rot before making roots.

Soot.— *Several Readers.*— The matter which rises from burning wood and bituminous coal, and which becomes condensed and hardened by the cooler air in the stove-pipes and chimneys is what is understood by *soot.* Soot from hard coal exclusively is of less value, still it is worth saving. Soot consists mainly of impalpable charcoal, and is rich in ammonia. All plants are benefited by its use. It is also valuable as an insecticide, on account of the creosote contained in it.

Chicory.—*A. G. P., Brunswick, Ga.*—We are not aware that Chicory is cultivated here to any extent. It is frequently used for adulterating coffee, and its addition to that beverage is rather preferred by some persons. Large quantities are annually imported from Europe. It is cultivated similar to Parsnips. The roots, when they have reached their full size, are dug, washed, cut into slices, and thoroughly dried by artificial heat. The roasting and grinding is done by the coffee manufacturers.

Carduus Benedictus.—*Dr. D. G., Granby, P. Q.*—As far as can be determined from the imperfect specimens the plant is *Carduus* or *Cnicus benedictus*—the Holy Thistle. It is really a very ornamental plant, the pure white veins on its large, shining leaves producing a beautiful effect. As tradition has it, these white stripes were produced by some of the Virgin Mary's milk having fallen upon them. The herb was formerly officinal, and held in high esteem as an expectorant and diuretic.

Amaryllis.—*Dr. Ph. M., Washington, D. C.*—None of the Amaryllis are hardy, except the *A. atamasco,* and even this should have some protection during winter. The principal condition for successful culture of all kinds of Amaryllis is to keep the bulbs entirely dry during their season of rest, and well watered during their growing and flowering period. Although they are most valuable for house culture, they do well outdoors if planted in spring, taken up after flowering, and stored similar to Gladiolus bulbs.

Snowdrops.—*R. J. W., Eufaula, Ala.*—The Snowdrop, *Galanthus nivalis,* grows in almost any soil and position fit for any kind of bulbs or bedding plants, and on account of its early blooming and modest beauty should be seen more frequently in our gardens. They should be planted in the fall, about two inches deep, and not be disturbed for several years. They may also be grown in pots, similar to Crocus. Closely allied to it is the Snowflake, *Leucojum vernum,* which flowers a little later, grows taller, has green spots on the tips of its petals; and has a peculiar, sweet fragrance.

About Tomatoes.—*F. B. C., Natchez, Miss.*—1. It would be a difficult matter to choose *the* best Tomato among the many excellent varieties. Acme, Conqueror, Mayflower, Trophy, and some others, are as good as any. 2. Three feet, each way, is not far enough apart; four by five, or five by five, is close enough. 3. It requires about eight weeks from sowing the seed to planting out, but the plants are generally pricked out a few weeks before the final transplanting. 4. Moderately rich soil produces more fruit than when surcharged with fertilizers, in which case the plants are apt to run too much to vines.

Chinese Lily.—*Miss M. T. F., Claverack, N. Y.*—We do not know of a Lily under this name, nor of any which the Chinese worship. Most of the Japanese Lilies grow probably in parts of China. The Lily which from the remotest ages has been revered as the emblem of purity and virtue, and which the Greeks and Romans consecrated to the goddess Juno, is *Lilium candidum,* the common white garden Lily.

True Lily bulbs should not be kept too dry during winter. Covered with moderately damp moss, they keep well in a cool cellar, and should be planted as early in spring as possible.

Sowing Vegetable Seeds.—*W. S. W., Shawano, Wis.*—To produce Cabbage very early the seed should be sown in hotbeds, in March, or better still, in the fall previous, and wintered in a cold frame. For late crops it may be sown outdoors as soon as the ground is in working order. Celery is now generally sown outdoors by market gardeners. Tomatoes are sown in hotbeds, as earliness is a main consideration. Onion sets produce bulbs earlier than seed. The great point with Onion seed is, next to good quality, to get it in the ground as early as possible. It is impossible to raise good Onions in hot weather. The March and April, 1882, numbers of THE AMERICAN GARDEN contained an excellent and comprehensive article on Onion growing. The questions about Sweet Potatoes will be answered in our next number.

Concentrated Fertilizers.—How to secure the greatest amount of fertilizing material at the least possible expense has always been a most important problem in modern husbandry. The freight charges for long distances are so high that the shipment of stable manure is generally out of question, and even with commercial fertilizers, the additional cost for transportation makes their use sometimes unprofitable. The Powell's Prepared Chemicals are intended to mitigate this evil by furnishing the fertilizers in their pure, concentrated form. The claims for these chemicals, as set forth in our advertising columns, are strong, but they seem to be well backed by statements of successful trials by leading farmers in many States; and the manufacturers, the Brown Chemical Co., of Baltimore, are an old and honorable firm of first-class commercial reputation.

A KNABE IN THE WHITE HOUSE.

(From the Baltimore American.)

There was seen yesterday at Messrs. Knabe & Co.'s factory a magnificent concert grand, just finished by them for the presidential mansion. President Arthur, who is a thorough connoisseur of music, in selecting a piano for the White House, decided in favor of the Knabe Piano as his preference, and ordered, accordingly, the instrument referred to. It is a concert grand of beautiful finish in a richly carved rosewood case and of superb tone and action—an instrument worthy in every respect of the place it is to occupy. It was shipped to its destination yesterday.

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To Yearly Subscribers to the American Garden for 1883.

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N. B. Descriptive circulars of any of these mailed free on application.

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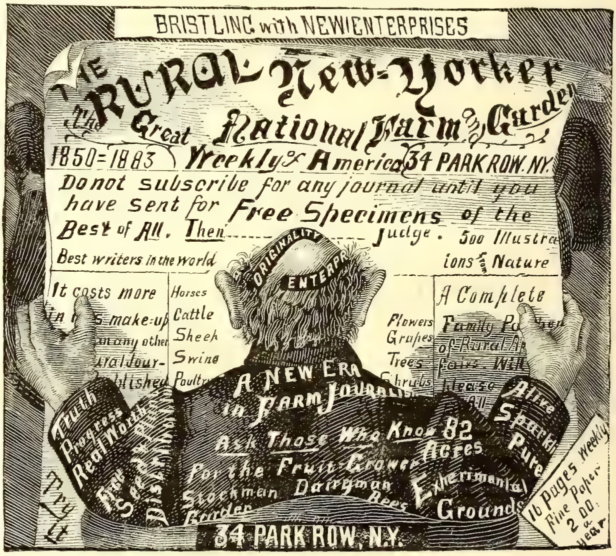
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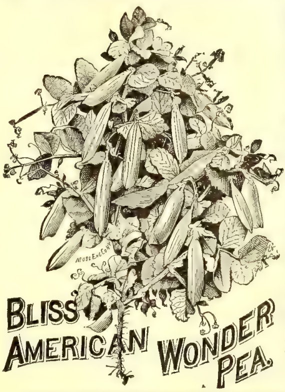

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Our Seeds are known the world over as *the best in the market.* In order to introduce them into every garden, we now offer our Popular Collections. ☞ **12 Packets of the choicest vegetables grown, amounting at Catalogue prices to $1.25, for only Fifty Cents,** as follows: **Bliss' American Wonder Peas,** the best, earliest, dwarfest Pea grown; requires no bushing. **Mayflower Tomato,** very early, fine quality. **Genuine Bermuda Onion,** true seed of this celebrated variety. **Salamander Lettuce,** fine heads, stands drought and heat better than any other sort. **California Mammoth Radish,** very large, excellent flavor, good for winter or spring. **Arlington Cucumber,** brings the highest price of any variety in the New York Market. **Cuban Queen Watermelon,** has been grown weighing 75 lbs. **Bliss' Improved Long Orange Carrot,** selected by us for 15 years, and now the best Carrot grown. **Bliss' Improved Premium Flat Dutch Cabbage,** best late sort. **Egyptian Beet,** none better. **Extra early Munich Turnip,** 3 weeks earlier than any other variety. **Jumbo Pumpkin,** specimens have been grown weighing over **200 lbs.**

N. B.—Most of the above sorts were first introduced by us. Send to us to get the genuine.

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No Substitution. Owing to the very liberal discount already made on these collections, no other varieties will be substituted for those named, nor can any change whatever be made in the collections.

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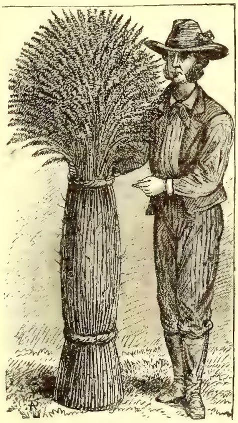
$210 IN PREMIUMS!
Offered for the Largest Yields and Heads of
PRINGLE'S NEW CEREALS.



We offer these cereals, with the **privilege of competing** for above premiums, among the premiums to subscribers to THE AMERICAN GARDEN for 1883.

PRINGLE'S AMERICAN TRIUMPH OATS.

This variety, now offered for the first time, is a cross between the Excelsior and the Waterloo Oats, combining, in a remarkable degree, the excellent qualities of both. To present a clearer idea of the character of its growth than words could give, we had a photograph taken from a sheaf chosen at random in the field. The man holding the sheaf was **5 feet 10 inches high,** so that, by comparison, the proportionate sizes are readily seen in the annexed illustration.

The average height, as the grain stands in the field, is six feet, yet the straw is so strong and firm that it holds up well, without lodging. the tall, luxuriant heads filled with plump, heavy grains. The quality and productiveness of the grain are unexcelled, yielding from 50 to 100 bushels per acre, according to the condition and state of fertility of the land.

The crop from which our seed was obtained has, while standing on the field, been examined by many experienced Oat-growers, all of which declared that they never saw anything to equal the "American Triumph Oats" in health and vigor of straw nor in yield and weight of grain.

25c. per packet of 1 ounce; 5 packets, $1.00.

PRINGLE'S ADAMANT WHEAT.

In this variety we have one of the hardiest and most flinty varieties in cultivation, very productive, hardy, and vigorous. It is a beardless white chaff variety, with long, narrow heads closely set with medium sized amber-colored kernels which produce flour of very superior quality. Straw yellowish white, very stiff and erect, averaging about 4 feet in height. For cultivation in the North-west, Colorado, and the Pacific Coast, where hard wheat is the favored sort, we are confident that this will be particularly desirable. Price, 25 cents per packet of 1 ounce; 5 packets, $1.00.

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This is another beardless variety of great promise. It has been grown for the past two years by one of the most experienced wheat cultivators in Northern Vermont, in close proximity to the Green Mountains, who pronounces it the best he has ever grown. The straw averages about 4 feet, light yellow, very strong, and free from rust. Heads average 4 to 5 inches in length, somewhat tapering, kernels white, large, and plump, very hardy and productive, and well worthy the attention of every wheat grower. Price 25 cents per packet of 1 ounce, 5 packets, $1.00.

$210 IN PREMIUMS.

Every one can compete. No restrictions, except the seed must be bought of us.

In order to induce farmers and others interested in the cultivation of grain to give these varieties a thorough and universal trial, we offer $210 *in premiums* to those who produce the *largest quantity of seed* from one packet of the seed, and for the *twenty best and heaviest heads* of both the varieties of Wheat and Oats purchased of us. Those ordering will please state, with their order, that they desire to compete for the Premiums. Descriptive circulars, with full particulars, mailed free on application.

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$1000 IN PREMIUMS

Were awarded last year, by THE RURAL NEW-YORKER, for the largest yield of corn of these two varieties, and it is with pleasure that we announce to have been fortunate enough to secure the entire original stock, which we now offer first for sale.

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A remarkably distinct and wonderful variety, producing the longest ears of any known kind. Ears of fifteen inches in length are not uncommon, and some have even reached the enormous length of *seventeen inches*, specimens of which may be shown. It is eight-rowed, of a peculiar buff color, cob very small, and kernels large and very broad. The stalks are slender, eight to nine feet in height, and closely set with large, remarkably *broad* leaves. Each seed produces upward of twelve strong suckers,—many of which mature perfect ears,—forming a regular **bush.** Its large yield, length of ear, and excellent quality make it a most desirable field variety throughout the Northern and Middle States, while its great suckering habit, breadth of blade, and smallness of stalk will render it, as a fodder plant or for ensilage purposes, the most valuable variety of Indian Corn at present known. Price 25 cts. per packet; 60 cts. per pint; $1.00 per quart, post-paid, by mail.

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EASTER LILY.

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The Best in the World for Forcing,

FOR WINTER FLOWERS,

For the Conservatory, Greenhouse, or Parlor.

The most valuable, as it blooms quicker, is more fragrant, never fails to bloom, and *produces from three to four times as many flowers* as any of the older sorts. Commonly bearing from 10 to 15 flowers, and many specimens 30 to 70, and one plant has borne

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Can be bloomed three times in one year.

FIRST PREMIUM

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These prices are for *dry bulbs, delivered free to any Post Office in the United States.*

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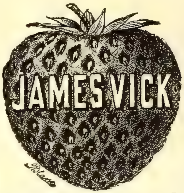

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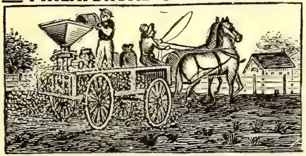

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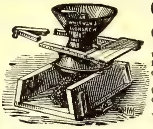

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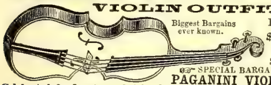

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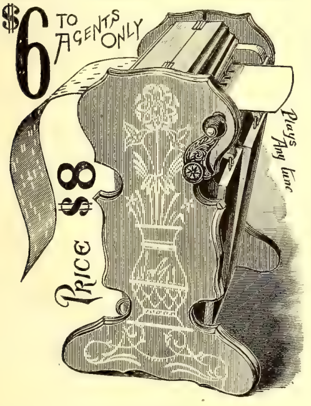

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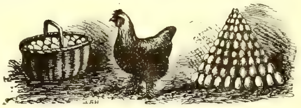

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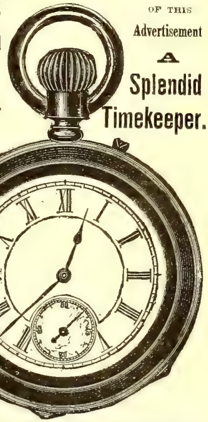

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N. B.—The popular and beautiful weekly publication known as HOUSE AND HOME, illustrated newspaper (*Established in* 1880), **is one of the best and most elegantly illustrated weekly newspapers of the day, full of News, Art, Science, Fashion, Music, Poetry, Charming Stories, Wit and Humor, Useful Knowledge, and amusement for every American home. In fact a pictorial history of the world from week to week—eight beautifully illustrated pages—same size as Harper's or Leslie's illustrated weeklies.**

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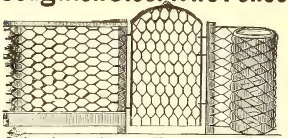

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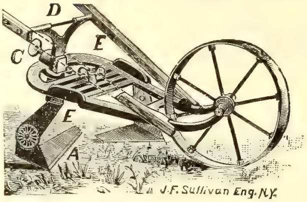

It will do the work of 8 men with the common hoe. Embraces all points requisite to make a capital tool. The Handles can be raised to suit. Knife blades set to any pitch, and from 7 to 16 inches in width, and when in working order is firm and strong, with nothing to become loose or shaky. This implement has not only given entire satisfaction, but is pronounced unequaled by all who have given it a fair trial. For the interest of all we can safely say that no one will ever regret having given it a thorough trial. For Onions, Carrots, Beets, and all Garden Crops, it has no equal. It has in a short time become the leading Tool in this and other countries. To show our confidence in this excellent tool, we will refund price paid if satisfaction is not given with its work — purchaser paying freight to and from. Leading Gardeners and Seed Growers all use it, and would not do without it. For sale by the following:

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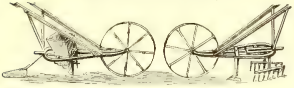

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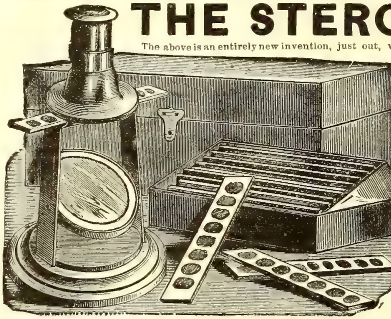

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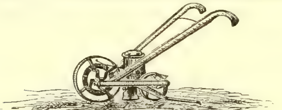

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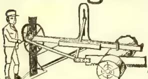

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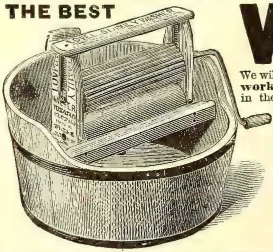

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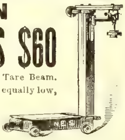

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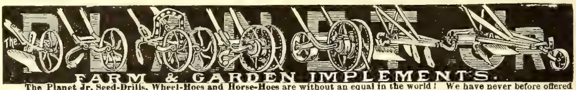
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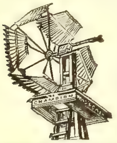

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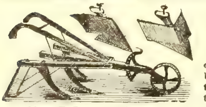

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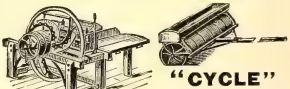

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I cannot say good-bye.
In the gloaming.
Is there no kiss for me to-night?
It is home where mother dwells.
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Meet me darling by the mill.
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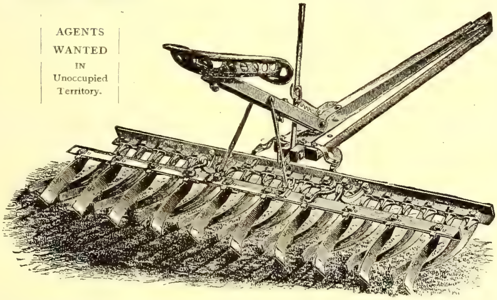

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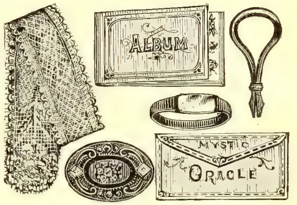

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SUNDERLAND, MASS., October 17, 1882.

DEAR SIRS:

I am now in a condition to report in regard to the effects of THE MAPES POTATO FERTILIZER. I took four separate pieces of land of equal size. The land was all similar, in the same condition as near as could be taken. Planted all pieces April 19th, and gave them the same cultivation and care.

The result was as follows:

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Second Piece.—I gave Mapes Manure, at the rate of 800 lbs. to the acre, one-half harrowed in and one-half put in the drill.

Third Piece.—I gave Mapes Manure, at the rate of 1,000 lbs. to the acre, one-half harrowed in and one-half put in the drill.

Fourth Piece.—I planted without any fertilizer of any kind whatsoever.

First Piece.—Yielded at rate of 220 bushels per acre. The potatoes were, however, quite badly cut by the wire-worms and grubs, and quite rough.

Second Piece.—Yielded at rate of 316 bushels per acre, of nice, large, smooth potatoes.

Third Piece.—Yielded at rate of 340 bushels per acre, of very large and smooth potatoes, with very few unmarketable ones.

Fourth Piece.—Yielded at rate of 140 bushels per acre, and a good many small ones among them, though smoother than on first piece.

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SUNDERLAND, MASS., October 25, 1882.

DEAR SIRS:

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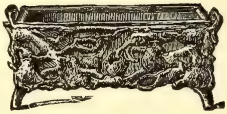

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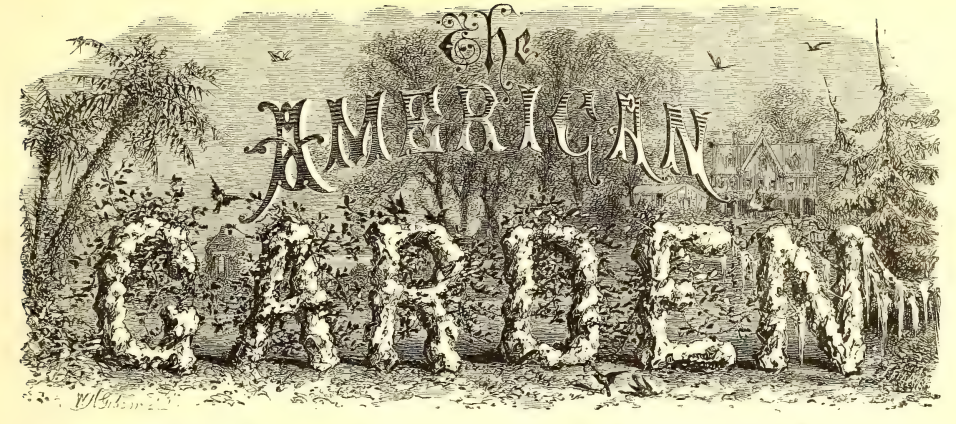

Vol. IV. NEW-YORK, FEBRUARY, 1883. No. 2.

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FOR FEBRUARY, 1883.

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TO OUR READERS.

This number is sent, as a specimen copy, to many who have probably never seen the publication or heard of it. To all these we would say that the AMERICAN GARDEN is not a local, but a national Journal of Horticulture in the widest sense of the word, embracing the entire field of gardening. It is not more devoted to the East than the West, the North than the South, but labors for the good of our entire country.

Although the commercial and industrial facilities of our great metropolis make it desirable that a publication of this kind should be published here, it will be perceived, on a superficial examination even, that its scope and range cover all sections, and that its teachings and directions are applicable to our entire continent. In fact, the majority of our contributors do not reside near this city, but on their farms and gardens in the States of Vermont, Maine, Massachusetts, Pennsylvania, Maryland, Georgia, Florida, Mississippi, Kentucky, Ohio, Wisconsin, Colorado, California, and indeed, in every State of the Union, and the provinces of Canada.

To make our journal so practical and reliable that its teachings may be accepted and followed as those of a trusted friend, is our constant aim.

As an organ for general practical horticultural instruction, the AMERICAN GARDEN stands unexcelled, a fact which will be admitted by any one who will give its pages a careful and impartial examination.

The influence and stimulus exerted by a periodical of this character and tendency, upon sound horticultural development, cannot be doubted. It is therefore that we ask the assistance and coöperation of all those who realize the great importance of horticulture as a national industry as well as a means of education and refinement. Those especially who follow any branch of gardening as a business, can do much good by speaking a kind word for the paper, and advising their friends and patrons to become subscribers, for their benefit as well as our own.

Short, concise articles on horticultural matters, and reports of practical experiments and experiences in the garden, will be thankfully received and appropriately acknowledged.

BOUND VOLUMES.

Some of our readers seem to have misunderstood the conditions under which these volumes may be secured; we will therefore try to state them more plainly:

1.—For $1.50 the Bound Volume will be mailed post-paid to any address.

2.—For $2.25 we will mail the Bound Volume and the AMERICAN GARDEN for 1883.

3.—Any one who sends a club of *four* subscribers to THE AMERICAN GARDEN for 1883, at $1 each, without premiums to the members of the club, is entitled to a Bound Volume.

4.—Any one who sends a club of *ten* subscribers to the AMERICAN GARDEN for 1883, at 75 cents each, with premiums to each member of the club, the same as if they subscribed singly at $1 each, is entitled to a Bound Volume.

These volumes contain all the numbers of the quarterly of 1880 and 1881, and of the monthly of 1882, carefully indexed and bound together in a handsome heavy paper cover. The amount of reliable and practical horticultural information contained in this combined volume, conveniently arranged for ready reference,—a farming and gardening encyclopedia in itself,—cannot be obtained in any similar book. There is hardly any gardening topic that is not treated in its columns.

WHAT OUR FRIENDS SAY.

THE AMERICAN GARDEN pleases me more and more. The "Seasonable Hints" are invaluable. —*W. S. W., Shawano, Wis.*

THE AMERICAN GARDEN is far ahead of any other horticultural paper, and grows better every month.—*L. J. B., Ludington, Mich.*

The colored plates of THE AMERICAN GARDEN are splendid. The editor and publishers may be congratulated on their success with this journal. —*Green's Fruit Grower.*

I have derived much valuable information from the columns of THE AMERICAN GARDEN, and I think the fortunate possessor of two or three pot-plants, as well as the custodian of a large conservatory, can obtain from the same source useful hints for the care and culture of the plants in his charge. If honest efforts be the precursors of success, there will be no doubt of your reaching the goal of journalistic floriculture.—*Dr. D. G., Granby, Canada.*

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The Vegetable Garden.

SEASONABLE HINTS.

In this latitude, the market gardener's busy season commences with the present month, although the forehanded gardener is never in want of useful employment at any season.

Hotbeds, without which no garden can be complete, unless there are forcing-houses to take their place, are so inexpensive, easily constructed and cared for, that to any one accustomed to their use it seems almost impossible to commence the season's work without their aid. Still, to judge by the many inquiries about "how to make a hotbed," there seem to be a good many gardens without any. The great point in making a hotbed for the first time is not to stand awed in contemplation before the prodigious work on hand, but simply to provide a heap of fresh horse-manure, fine rich soil, some boards and nails, and go to work.

The Frames may be made substantial and expensive, or plain and cheap, according to one's inclinations and extent of purse. The success of the hotbed, however, is not generally dependent on the cost of its construction. In market-gardens the frames are made in a very simple and cheap manner. Pits are dug six feet wide, two feet or more deep, and of any desired length, generally not longer than to accommodate about twenty sashes. The bottom of these excavations is leveled, and the sides are boarded up by driving stakes in the ground, and nailing any kind of cheap boards against them.

For private gardens, movable frames are more convenient, have a neater appearance, and, in summer, after the plants have been removed from the beds, may be taken up and stored under a shed till wanted again. A convenient size for frames is twelve feet in length by five feet ten inches in width, so as to accommodate four 3 x 6 sashes. Any one who can saw a board and drive a nail can make such a frame. It consists simply of a box, without bottom and cover, with one board of about ten inches wide in front, two boards in height at the back, and side-pieces of one board, five feet ten inches in length, with a triangular piece, obtained by sawing a board of the same size in two diagonally. Every three feet, strips two or three inches wide should be mortised in the front and rear boards, and nailed crosswise. Small posts should also be nailed in the corners to strengthen the frame.

The proper preparation of the heating material is generally surrounded with considerable mystery in the popular mind, and forms the most discouraging feature to the beginner. But, however formidable the "trade-secrets" of the "professional gardener" in this respect may appear, no one needs despair of success as long as he has a good heap of horse-manure to rely upon.

Manure for hotbeds should be as fresh as possible, and worked over twice before using. If there is not enough fresh manure on hand, a layer of older manure may be placed on the bottom of the bed. Manure obtained from livery stables contains, generally, not sufficient litter, and should be mixed with an equal quantity of leaves or cut straw, and, if dry, well watered.

SALSIFY.

The Salsify or Vegetable Oyster is one of the most desirable of our winter and early spring vegetables, and one that should be cultivated in every garden, however small.

To those who are not acquainted with this delicious esculent, it may be described as having a long, white, tapering root, somewhat resembling a Parsnip in shape, and having the flavor of an oyster when prepared for the table. It is by some considered an excellent substitute for the oyster, and, in addition to this, the young flower-stalks, if cut in the spring of the second year, are prepared and used similar to Asparagus, which they somewhat resemble in taste.

In order to obtain a satisfactory crop of Salsify, with long, smooth roots, proper preparation of the soil is an essential point. This is best done by digging or plowing the soil to the depth of twelve or fourteen inches, and thoroughly working in an abundant supply of well-decomposed stable manure. The ground should be prepared in the fall, and left in ridges during the winter season. As soon as the weather becomes settled in the spring, the ground should be neatly leveled off, and the seed sown in drills from twelve to eighteen inches apart, and covered to the depth of half an inch. When the young plants are about two or three inches in height they should be well thinned out, leaving them standing about six inches apart. During their season of growth they require to be deeply hoed, and the ground should be kept mellow and free from weeds at all times, until the crop is ready for use, which will be about the middle of October. The roots will continue good until spring; but those that are wanted for winter use should be taken up before cold weather sets in, and stored in sand in a cool, dry cellar. When lifting the roots, the leaf-stalks should not be cut off closer to the crown than about an inch. Those wanted for spring use may be left in the ground until required; but care must be taken to dig the roots before they commence to grow. An ounce of seed will sow about fifty feet of row.

There is only one variety cultivated. The so-called Black Oyster Plant is not a Salsify at all, but a *Scorzonera*, which, although its root resembles the former, belongs to another genus. Its cultivation does not differ from that of Salsify except that, as it has a tendency to run to seed, it should be sown later.

CHARLES E. PARNELL.

THE SWEET POTATO.

Growing Sweet Potato plants for the more northern section of the country has developed into quite a business, and in all our large towns and cities the hot-houses are largely devoted to raising the sprouts and slips. They are started about the first of April, and their growth will largely depend upon the condition of the soil and the quality of the seed planted. The forcing-beds are thoroughly enriched with fertilizers, so as to insure a rapid growth that will enable the grower to put the plants on the market from the 15th of May to the 1st of June.

The way to plant is as follows: Cut the Potato lengthwise, and put pieces, cut side down, close together, in the drill previously made, and cover to a depth of two or three inches. The soil will need watering with tepid water every few days, so that there will be moisture enough for the sprouts to start and grow; but too much water must be avoided, or the Potato will rot. In a few weeks, if the Potatoes planted were fresh, and not dried and shriveled up, the sprouts will begin to show through the soil, and in due time commence to grow more or less rapid according to the richness of the soil and the care given them. If they are slow in growing, a little phosphate or guano dissolved in water may be sprinkled on them, but care should be taken not to put on too much, since it is liable to burn the leaves. Very often the grower hurries his plants along so fast that they become too large before the proper time for planting. One should look out for this, as medium-sized plants are best, and should always be selected. Many of our farmers at the north purchase every year from five hundred to one thousand plants, so as to raise enough Potatoes "for their own use."

Usually we would select a light, sandy soil, well enriched, and the fertilizers thoroughly mixed with the soil. The plants are set in rows three feet apart, and two feet in the rows, so that a cultivator can run between and loosen up the soil. Hoe the young plants, but do not disturb the running vines too much after they begin to cover the ground. It is best, however, to stop their taking root too much as it makes smaller Potatoes in the hill; but when the vines are lifted, care should be taken not to break them where they have taken root.

We have grown Sweet Potatoes several years with varying success; some years they would be large and sweet, and another season they would be small and soggy. Still, we would advise any one interested in them to make the trial with a hundred plants or so, and the experiment will be novel and interesting to one who has never grown them, while he may succeed in raising a good crop of "Sweets." For northern cultivation, the *Early Golden* has been found more productive and valuable than later maturing varieties.

E. R. BILLINGS.

MUSHROOMS IN CELLARS.

Procure sufficient horse-droppings to make a bed the size required, and from one foot to eighteen inches deep when beaten or trodden down firmly. The bed may either be made against a wall, and be flat, or in ridge-shape anywhere in the cellar. The manure must either have been fermented in a heap, and frequently turned and intermixed to carry off some of the rankness; or, if the manure is used fresh, a barrowful of fresh, loamy soil should be added to every four or five barrowfuls of manure, varying the quantity a little according to the freshness of the latter. The bed must be trodden or beaten down firmly, and as soon as the temperature has become steady, if it does not exceed 90° and is a little on the decline, pieces of spawn as large as a full-grown Walnut may be inserted by making holes with a dibble eight or nine inches apart and three inches deep, closing the holes and making all firm again when finished. Place on two inches of fresh soil as soon as the spawn begins to run freely, and leave the surface smooth and firm. The manure should be that of horses consuming principally corn and other dry food.—*Gardening Illustrated.*

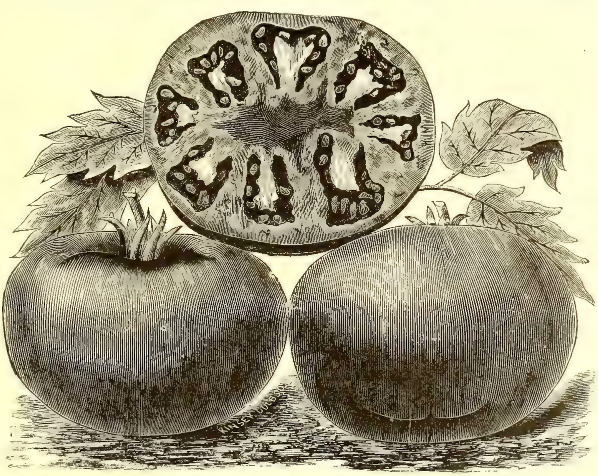
LIVINGSTON'S FAVORITE TOMATO.

With Tomatoes, as with Strawberries, the annual introduction of one or more new varieties seems to be an accepted fact, and if these novelties are always as promising as this one, the increase of the number of varieties is certainly to be encouraged. Mr. Livingston, who has already introduced the Acme, Paragon, and Perfection, and whose judgment in this respect carries more than ordinary weight, considers the "Favorite" superior to any of his older seedlings.

It is claimed to be the largest perfect-shaped Tomato in cultivation, smoother than Paragon and darker red than Perfection; to ripen early and evenly, and to hold its size to the end of the season; to be very prolific, of best flavor, and on account of its firmness promises to become a most valuable market variety for shipping long distances.

ENGLISH VEGETABLES.

It may be a surprise to some of our readers who have heard the praises of English Green Peas, Vegetable Marrow and English vegetables in general extolled, and who were made to imagine that to enjoy the best things on earth, one must go to Europe, to be informed, by as good authority as the *Pall Mall Gazette*, that English vegetables are far inferior to American. It says:



LIVINGSTON'S FAVORITE TOMATO.

"The same causes which give us good meat, deny us in England the possibility of good fruit and vegetables. For while the herbage requires copious rain, the fruits, seeds, pods, flowers, buds, and other miscellaneous objects which we class from the culinary point of view as vegetables all require copious sunlight. That is why we have none of them. Our only good vegetables are such as very young Rhubarb, Seakale, Asparagus, and Celery, which are the blanched sprouting shoots of perennial plants. These mostly come in spring-time, and as they are none the worse, or even all the better, for a little wholesome soaking, they manage to survive our climate well enough in the long run. But most other vegetables are more or less fruity in their nature; and really to taste these one must go to America or Italy — for choice the first.

"Of thoroughgoing fruity vegetables — such as the Tomato — we in England know nothing. We never have sun enough to ripen them properly; and even with all the appliances of modern gardeners, they never get thoroughly red and soft throughout in our gardens as they do in the open air under a Canadian or Italian sky. They always have a half-green taste, and are wholly lacking in the true rich Tomato flavor. Indeed, the tinned American specimens, though tasting of the solder, of course, are better savored after all than our poor, starved, sunless English things. As to purple Egg-fruit and green Chow-chows, we know them not at all; while the profusion of rich red-fleshed Water-melons and primrose-skinned Squashes and golden Pumpkins in a Massachusetts market would astonish Covent Garden, and set some nascent Turner to work with all the pigments on his palette to try his hand at a new and many-colored subject. These things require the sun to ripen them, and we see his face here as a rule for some two and a half hours weekly, as duly registered at Glynde Place, Lewes.

"Then, again, there are the winter Cherries, the Sweet Potatoes, and, best of all earthly vegetables, green Indian Corn eaten off the cob with fresh butter, and likest to nectar of all mortal delicacies. As for pulse generally, our Beans are all stringy; we have neither the variety nor the tenderness of the American Bean. Our Peas have some good points — for English Peas; but they are not half so large, or luscious, or melting, as American Peas. They take too long growing, and have got old and hard before they are big enough to pick. The delicious crinkly eatable-pod Pea would be impossible here: it would have got tough and sinewy a month before it was ready for cooking. We grow Buckwheat to feed our pheasants, but it never ripens as it ought, and Buckwheat pancakes at breakfast will doubtless be an unknown luxury with us for ever.

"In the matter of leafy vegetables we can do a little better, but not enough to boast about. We are strong in salads; our climate provides us with plenty of fresh green Lettuce, and plenty of slugs, too, to hide in its recesses. But our Cauliflowers and Broccoli are not nearly as good as the American; they are neither so white nor so delicate in flavor. We can grow Cucumbers (under glass), because Cucumbers are eaten green; but what a miserable farce are our Vegetable Marrows!

"What is true of vegetables is even more true of fruits. To be sure, our English hot-house Grapes are the best in the world; but for Strawberries, Raspberries, Currants, Gooseberries, Plums, and Cherries, we must go to America. Our Peaches are a success; our Apples are a national failure; and our Pears are a standing insult to the human intelligence. But we may at least congratulate ourselves that with the aid of glass and stoves we can obtain heat and light enough to grow the best Pineapples in the world at the moderate cost of one guinea apiece. In Jamaica they usually sell at two for three-half-pence."

MANURE FOR THE GARDEN.

Nothing in gardening is of more importance than manure. In fact, it is the strong moving power of garden operations, and the wide-awake gardener will endeavor to acquire it from every source. Stable-manure is the staple article, but is often so high-priced that it must be handled economically, and applied judiciously, to make its purchasing profitable. Commercial manures are valuable, but freightage, in addition to first cost, make their purchase not always profitble, and, as the gardener's outlay is heavy, and he often meets with losses, it is important to use economy at every point.

Fall and winter are the main time to collect manure, and I manage generally to secure a fine lot of excellent fertilizer. When the ground is dry I send my wagon to the woods, and haul the richest surface-loam to be found. I rake leaves and all with the loam, for the leaves that have lain all winter and summer will readily rot and add value to the manure. This I throw in my hen-house, a foot deep, and in about a month another foot is thrown in. If I have fifty fowls I throw in another foot; but for twenty-five or thirty, two feet is plenty. This loam is raked over once a week, and once every month I have the whole turned and mixed thoroughly.

On this loam are thrown all the slops from the cook-room, all the soap-suds from the wash-tub, all the chamber-lye — in fact, everything that will add to its value. If the loam is thoroughly dry when first put in, it will not become too wet, and by raking it over the droppings every week it will keep dry enough not to be injurious to the poultry. But the fowls themselves keep the droppings pretty well covered by wallowing and scratching in the loam.

At one time, in the fall, I procured coal-soot from a steam-mill; to six bushels of soot one bushel of common salt was added. In the spring the hen-house was nicely cleaned out, and its contents were thoroughly mixed with this soot, and then covered with boards to keep it dry. This fertilizer was put in the hills of various vegetables and produced a most astonishing effect.

It is surprising how much fertilizing matter accumulates about a place during a year, and if it is only saved and used properly it takes the place of more expensive manure.

Thos. D. Baird.

The Fruit Garden.

SEASONABLE HINTS.

Theoretically, trees should not be pruned before severe cold weather is past, as it is supposed that the fresh wounds do not heal readily during freezing temperature, causing disease and decay. Practical orchardists and nurserymen, however, pay little attention to this precept, and "prune when the knife is sharp," as the old adage says. We have pruned a great number of trees, old and young, during mild January and February days, without having found any injurious effects to follow.

Pruning Fruit-Trees.—There is no operation connected with fruit growing about which there exists so much misapprehension and diversity of opinion as about pruning. Many prune too much, others too little, and very few just right. Every owner of fruit-trees should understand the object and principles of pruning, so that, if he does not do the work himself, he may direct and supervise those who do it for him. Ordinary hired men, competent to prune trees and vines judiciously, are exceedingly scarce; and in many cases the trees and their proprietor would derive more benefit by paying the pruners for staying away, rather than to admit them to the grounds and permit their mutilations. We have seen so-called "professionals" divest strong, thrifty Pear trees of nearly every one of their fruit-spurs which had been many years in forming. They were ignorant of the fact that trees required bearing-buds to produce fruit. Pruning, without a thorough understanding of its objects and purposes, is like "blind-man's-buff,"—you may hit the right one, but generally it is the other way.

Old Trees which have remained uncared-for during many years, and present a dense, incongruous mass of dead and living branches, have to be handled with considerable caution. It will not do to cut out all the badly placed and superfluous branches the first year. All dead wood should be removed at once; but to remodel an old tree completely requires several years, cutting out annually only the most crowding and ill-shaped limbs. In the majority of cases, old orchards need manuring more than pruning. Although old trees may sometimes be renovated, and brought back to fruitfulness, the wisest plan to pursue for those who have declining orchards is to plant young trees, and with these to be sure to start right from the beginning.

Young Trees are pruned with a view to divert the sap from the end of the terminal branches and direct its flow to the weaker side-buds, so as to produce a well-proportioned, symmetrically-shaped form. At a height of four to six feet from the ground, according to the desired length of the body, the main stem is cut off, and three equally diverging buds are allowed to grow, while all others are rubbed off. The following year the three shoots of the previous season's growth, which are to form the frame-work of the top, are cut back to about one-half, directly above a point where there are two side-wise diverging buds. The following years a uniform growth of these six branches should be maintained and the side branches thinned out so as to produce an open and well-balanced vase-shaped head.

THE KIEFFER PEAR.

Of the many new fruits introduced within the past few years, none have been watched with more anxiety than the Kieffer Pear. The claims for it by its introducers were so extraordinary, and the reports of those who had tried it so variable, that naturally there is considerable inquiry as to "the truth about it."

At the recent meeting of the New Jersey State Horticultural Society we had occasion to taste several specimens, and to hear some of the most experienced fruit-growers of the State express their opinions, as the result of which we arrived at the conclusion that, although possessing some very desirable properties, it is deficient in the essential qualifications of an eating Pear. The report of the fruit committee gives, perhaps, as exact and concise a description of it as can well be given in an equal space:

"This unique Pear was raised by Peter Kieffer, near Philadelphia, from seed of the Chinese Sand Pear, accidentally crossed with one of the finer cultivated varieties. The trees are remarkably vigorous, early bearers, and very prolific; fruit of good size, color orange-yellow, with rosy blush at maturity, if grown in the sun; flesh white, coarse, flavor variable."

The samples on exhibition, however, had no claim to "variable flavor"; the quality of all of them was so poor that they were entirely unfit for eating. Still, the last season was unusually unfavorable for Pears of all kinds, and it was stated that even the best varieties had not been as high-flavored as usual. This is unquestionably true; and when, the day following, Mr. Charles Downing assured us that he had eaten Kieffer Pears of "good quality," we could not doubt their "variable quality" in varying seasons. But as even its most ardent admirers do not recommend it for table use,—not their own, at least,—the quality question may as well be passed in silence.

As a market Pear it is claimed to be superior to any other on account of its great productiveness, good keeping quality, large size, and attractive appearance; and in a market where the eating quality of a fruit is of no consideration whatever, it will no doubt sell well. It is also recommended for cooking and canning.

The claim that the tree is proof against fire-blight is not sustained by experience. As an ornamental tree it has much in its favor; it is a vigorous, rapid grower, has large, dark, glossy leaves; bears early, sometimes in two years from the graft. The Pears hang on the tree remarkably well, and a tree laden with its large, bright, rosy-cheeked fruit, peeping from between the dark green, shining foliage, is a beautiful sight indeed, so that those who make a trial with it cannot be disappointed in this respect, even if the fruit should range low in the quality of scale.

SOIL FOR GRAPEVINES.

"A vineyard is situated on the top of a ridge fifty feet above bottom lands on both sides, with not more than one hundred feet of level ground on the crest; remainder sloping to the north, with fall of four feet to the hundred. Soil, red clay and gravel, with paving-stones sufficient to ditch three feet deep and fill one-half the depth with them; oak leaves sufficient to cover the stones packed to the depth of six inches; one foot of the best top soil to complete them, and this at a distance of fifteen or twenty feet apart, across the slope, not up and down the same.

"Now, the question is, will such arrangement be detrimental to the vineyard, the ditches being blind? *i. e.*, having no outlets. Will they be better than none at all, or will it be necessary to intersect them by one or more, running up and down the slope, with open outlets—which will be difficult, as the opening must be in the gutter of a public street?"

This inquiry comes from Washington, D. C.

Without having any further details about the nature and depth of the soil, we should suppose the location to be highly favorable for a vineyard, and unless the sub-soil is very retentive, draining will be of no benefit whatever. Longitudinal drains without outlets will be positively injurious. The importance of draining and high manuring for all vineyards have been so much overestimated as to seriously retard the progress of Grape-culture. Of course, where the sub-soil is very heavy, and where water stands on the surface long after rains, draining becomes a necessity, but in gravelly or shaly soils it is entirely useless. Many vineyards have cost more for draining and fertilizers than their crops can ever return.

In moderately fertile soil no manure is required for Grapes at planting; and when afterward the vines show lack of vigor, the entire ground should be manured, not a small circle around the stem. Over-manuring produces too much wood-growth, at the expense of fruit. In soils adapted to Grape-culture, proper pruning and thorough cultivation are of more importance than manure. Stones on the surfaces are no detriment. In many of the famous Hudson River vineyards the ground is composed of more stones than soil.

CANNING ORANGES.

By a process similar to that used for preserving other fruits, Oranges have recently been successfully canned and shipped. The fruit is peeled and broken into its natural sections before canning, and when taken out is just ready for use. This is likely to become an important industry in the Orange-growing districts of California and Florida.

SOUTHERN GRAPES.

To an inquiry why there are not more Grapes grown in the South, *Mr. C. W. Idell*, a prominent produce commission merchant of this city, replies, that the great obstacle in the way of Southern growers is the heat they are compelled to pick and pack in. The fruit is kept confined in close cars, so that, in many cases, it arrives in bad condition. The three principal varieties grown South are Concord, Ives, and Delaware. The Ives ripens thoroughly, and carries well. In Delaware, if I mistake not, the growing of grapes as a market crop has been abandoned.

Another feature that operates unfavorably to the Southern Grape-growers is the presence of large quantities of various other fruits in our markets at the time their crop comes to maturity.

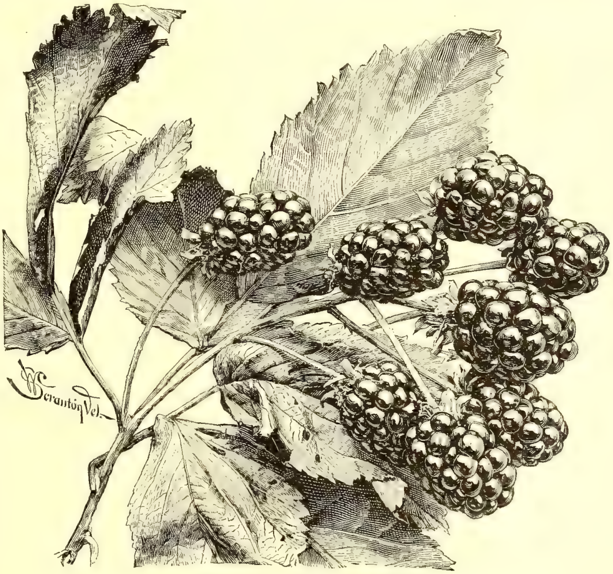
EARLY HARVEST BLACKBERRY.

Mr. Parker Earle, the illustrious fruit-grower of the West, thus speaks of it: "This new Illinois seedling, or, if you please, wilding, is attracting a deal of attention among cultivators. First of all, the Early Harvest is not the Brunton's Early, another Illinois production, as has been stated in some of the horticultural papers. The two are much alike as to sizes of fruit and season of ripening, and also in the appearance of the plants, but they are distinctly unlike in their blossoms: the Harvest having perfect flowers, while the Brunton is entirely pistillate, and will not bear a berry without having some good staminate variety planted with it."

Until I had planted this new candidate for public favor I thought its name must be a misnomer, but I find it entirely appropriate, as it ripens just when wheat is in condition to harvest; and it affords me much pleasure to speak in its behalf, believing it to be a decided acquisition. The summer of 1882 I fruited some acres of it, and it is certainly remarkably early. Backward as the season was, I picked ripe berries of it on July 7th, fully a week before the first berries of Wilson's Early had turned black; and it ripened its entire crop in a few days, thus adding much to its market value. The canes are rather dwarf, stout, upright, and branching, and entirely hardy in New Jersey; being altogether hardier than Wilson's Early, and surpassing, in this respect, Kittatinny, Lawton, and the other old varieties; berries with core and of excellent quality, and borne in the greatest profusion, but not large as shown in the engraving, which is as accurate as it is beautiful.

The plant is very much disposed to overbear, and should be severely pruned and liberally supplied with fertilizers, to aid the canes in adding size to the fruit. The blossoms are large and well furnished with stamens, as will be seen by the accompanying illustration, drawn from nature. Early Harvest is eminently distinct from all other varieties in general cultivation, and, while a good berry in other respects, its most prominent merit is its *earliness*, ripening far in advance of Wilson's Early and all other popular sorts.

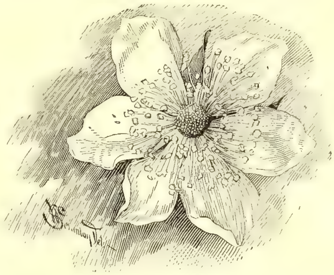
J. T. Lovett.


Scranton Del.

THE EARLY HARVEST BLACKBERRY.

RENOVATING THE SOIL NEAR FRUIT-TREES.

The soil around and beneath fruit-trees becomes impoverished by producing annual crops of fruit, just as a field becomes "run-down," as farmers express the idea. When our country was first inhabited, and fruit-trees were planted, the fertility of the soil was so abundant that bountiful crops were produced every season. It was of rare occurrence that a tree would bear only every other year. But, after the trees had yielded many crops of fruit, the far-spreading roots were unable to collect a sufficient quantity of material to form a crop of fruit and produce a crop of buds also, in one season. A great many young orchards fail to yield even a small crop of fruit once in two years, for the simple reason that the soil has been exhausted of its fertility.



BLOSSOM OF EARLY HARVEST BLACKBERRY.

What can be done to render such trees productive? As a general rule, there is a sufficiency of carbonaceous material in the soil, except where there happens to be a large preponderance of sand. Experience teaches that, when fruit-trees are standing where the roots have access to a generous supply of clay, the crops will be more abundant, and the trees will yield fruit a longer time than when the earth is composed principally of sand. The same is true when trees are growing in a light, mucky soil. In case the soil is of a light, silicious, or carbonaceous character, the first important step will be to apply a generous dressing of clay around the trees, as far as the longest branches extend. If the land is in grass, the entire surface should be plowed, or thoroughly dug up, to the depth of several inches; after which, scatter chip-manure, street-gleanings, ashes, lime, old mortar, the accumulations of the hennery, privy, the scrapings of manure-yards, and any garbage that may have accumulated near the back-door of the kitchen. If the ground be completely covered with coal-ashes, or the sweepings of blacksmiths' shops—so deep that no grass nor weeds can grow beneath the tree—the owner will have the pleasure of seeing, the following season, a bountiful crop of luscious fruit on a tree which hitherto may have yielded nothing but knotty, gnarly, and unmarketable specimens. Every fruit-tree, and every berry-vine and fruit-producing bush needs potash, or soda, or both. Consequently, if ashes in abundance be placed within reach of the roots, the hungry mouths at their extremities will find and take up the desired elements. If one has many trees and vines, and only a small quantity of ashes, it will pay him to purchase crude potash by the cask, dissolve it in water, and spread the solution around his trees and vines, or break the hard mass into small pieces, and scatter them thinly all over the ground covered by the branches. It is a grave mistake to pile fertilizing material of any sort close up to the body of a tree.

In large orchards on light soil, one of the wisest and most economical modes of commencing a renovating system will be to go with teams, during the winter (or at any other convenient time), to some clay-bank, haul the rough earth, and spread it around the trees. Frosts, and rains, and snow will soon mellow such apparently barren earth, and its valuable elements of fertility—the bud-producing and the fruit-forming material—will soon pass down to the roots, where they will be taken up and appropriated to the production of fine fruit. It will sometimes pay to haul good clay several miles for this purpose.

In many parts of New Jersey and Long Island, where the soil is so sandy that fruit-trees barely live, a few bushels of marl, or a wagon-load of muck, spread around a tree, are often the means of producing a bountiful crop of fine fruit. I have known excellent results to be produced simply by spreading around each tree two wagon-loads of hard, heavy, somewhat gravelly earth, dug from a hill. If the proprietor of fruit-trees can have convenient access to sawdust, spent tan-bark, or the rough hay from salt meadows, it will be profitable to mulch every tree sufficiently to subdue grass and weeds. Winter is the most convenient season to attend to such work.

S. E. T.

The Flower Garden.

THE MESSAGE OF THE ROSE.

BY BESSIE CHANDLER.

HE.

She gave me a Rose at the ball to-night,
  And I—I'm a fool, I suppose,
For my heart beats high with a vague delight;
  Had she given me more than the Rose?

I thought that she had, for awhile,
  Till I saw her—fairest of dancers—
Give another Rose, with the same sweet smile,
  To another man, in the lancers.

Well, Roses are plenty, and smiles not rare;
  It is really rather audacious
To grumble because my lady fair
  Is to other men kind and gracious.

Yet who can govern his wayward dreams?
  And my dream, so precious and bright,
Now foolish, broken and worthless seems,
  As it fades, with her Rose to-night.

SHE.

I gave him a Rose at the ball to-night—
  A deep red Rose, with fragrance dim,
And the warm blood rushed to my cheeks with
    fright—
  I could not, dared not, look at him.

For the depths my soul he seemed to scan;
  His earnest look I could not bear;
So I gave a Rose to another man—
  Any one else—I did not care.

And yet, spite of all, he has read, I know,
  My message—he could not have missed it:
For his Rose I held to my bosom, so,
  And then to my lips, while I kissed it.
    —*The Century.*

SEASONABLE HINTS.

To produce the best results and the greatest enjoyment in the flower-garden, the easiest and simplest methods are, as a rule, the most appropriate, and the most charming effects are often gained with inexpensive methods and without much trouble. This observation suggests itself in examining the lists of the season's novelties, and in making a selection of those varieties which appear most promising. How many will come up to expectations, how many will equal our old familiar kinds, and how many will disappoint us, who can tell? It is with floral novelties as with new friends: they do not always improve on nearer acquaintance, and seldom come up to the standard of old, tried, and reliable friendship.

Yet there is a great charm in novelty, and to be deprived of the watching care for some new flower, or fruit, or plant, would mar considerably the pleasures of our gardening. Everybody should try a few new flowers—new to the grower, at least—every year. What is common in some localities may be unknown in others, and many of the cheapest and easiest cultivated flowers are among the sweetest and most brilliant floral treasures, and should be in every garden. No one will be disappointed with Mignonette, Nemophilas, Candytufts, Pansies, Snapdragons, Lobelias, Sweet Peas, Asters, Marigolds, Phlox Drummondii, Petunias, Godetias, Balsams, Zinnias, Dianthus, Clarkias, Dwarf Convolvulus, Portulaca, Tropæolum, Sweet Alyssum, and many others that may be had for a few cents.

BULBOUS IRIS.

The Iris family comprises many of our most showy garden flowers; indeed, we know of none of which all the members are so ornamental. The German Iris (*I. Germanica*) in its many varieties, and the Japanese species (*I. Kœmpferi*), of more recent introduction, are hardy plants, which in June and July make a grand display in the herbaceous border. The smaller species, however, most of which have bulbous roots, are not as common, though they are, if possible, superior in delicacy and brilliant color. Their culture is very easy. The bulbs should be planted in the autumn, say about October, in a light, well-drained soil; if the ground is too stiff, they are apt to rot; treat them exactly like other Dutch bulbs, covering the bed with litter as winter comes on, uncovering in spring. It is, however, necessary every few years to take up the bulbous species after the leaves have faded, and to re-plant them, as the new bulbs annually are formed *below* the old, and thus in time the plant buries itself. This care is not necessary with the tuberous varieties. The English and Spanish Iris force well either in pots or water, like Hyacinths, but the other species, except the Persian, although very showy in pot culture, seldom bloom much earlier than if planted out of doors.

I. Xiphium is commonly called the Spanish Iris. The flowers are very handsome, of various colors, freely produced, and very fragrant. It propagates freely from offsets, and ripens seed in abundance.

I. Xiphoides, although a native of the Pyrenees, is called the English Iris. The bulbs are larger and rounder than those of the Spanish Iris; the flowers are larger, and the plant is of stouter habit. It propagates slowly from offsets, but ripens seed freely.

These two species hybridize readily, and there are hundreds of named seedlings, among which it would be difficult to find a poor one. They are very cheap, costing only from fifty cents to a dollar per dozen.

I. Lusitanica is a somewhat rare and less hardy species. The flowers are purple, yellow, and buff, and very handsome.

I. Iberica is a very showy plant, and for its size has enormous flowers. The sepals are very large, snowy white, the petals dark. It is a singular and remarkably beautiful flower.

I. Persica is a little gem, and one of the earliest of spring flowering bulbs. No words can do justice to its delicate beauty, or give an idea of the pure contrasts of color in this charming flower.

Two other species, more properly tuberous than bulbous, are very beautiful.

I. tuberosa has rich velvety flowers, and *I. Susiana* is one of the most beautiful of the family. The flowers are very large, whitish, densely netted with dark lines; indeed, it is difficult to describe the colors. These two species do well under pot culture; both are hardy with slight winter protection, but the roots must be taken up each summer as soon as the foliage decays, and replanted in October, for if left in the ground they make a very early autumn growth, which is killed by the winter, and the plant dies. The bulb known as Peacock Iris, or *I. peconia*, is properly *Vieusseuxia glaucopis.* It is a slender plant, with lovely pure white flowers, each petal marked at the base with bright blue. It is not hardy, and is not suitable for border culture, but does well and flowers freely in the green-house. It is a native of the Cape of Good Hope. R. S. E.

IN MY GARDEN.

CALIFORNIA POPPIES.

My California Poppies (*Eschscholtzias*) were a grand success last summer. Several plants came up quite early in spring from self-sown seed, and grew to large size. These are plants that must be sown where they are to bloom, for they will not bear moving under any circumstances, not even if you take them up in the rain, and hold a parasol over them when the sun shines, for weeks afterward. And they will not bloom in the shade; they must have sunshine, and the seed should be sown as early as the ground can be worked. I got mine in betimes, and this is the way I did it: I dug the bed deep and thoroughly, looking out for worms and beetles, and, thanks to the birds, I found only one noxious animal in the whole bed, and that was a wire-worm. Then I raked the soil nice and smooth, and patted it all over with a trowel, until it was as level as the floor; then I scattered the seeds thinly and as evenly as possible; next I sifted leaf-mold over them, and patted it down with the trowel; then I sat down and rested, and thanked my stars that the job was done, and well done. The next thing to be attended to was weeding, thinning out, and sprinkling with leaf-mold. This sprinkling with fine earth is needful for all seedlings before they are large enough to be hoed. The first hoeing should be given, not with a big, full-grown hoe—oh, no!—but with an old kitchen-fork, or the point of the trowel, if you have nothing better.

I am very fond of "pottering," as Salerica calls it, among the "green things growing." I like to coax the little leafy things along, from the first tiny shoot to the full flower, and I enjoy it all from first to last. Hence, my hobby of growing everything from seeds.

PROFUSE-BLOOMING LILIES.

I have a bulb of *Lilium Canadense* that for several years has thrown up but a single stalk; but last spring the stalk was accidentally broken off before blooming, and this spring it has sent up two stalks. Now, if Lilies generally were not allowed to bloom the first and second years, would they not become better established and last longer? [Breaking off the flower-stalks induces a tendency for splitting of the bulbs. Flowering does not weaken the bulbs materially, but seed-bearing does; all blossoms should, therefore, be removed when fading.—ED.]

IS THE GLADIOLUS HARDY?

This query suggests itself by the fact that a few bulbs which I left out last winter, on purpose to try an experiment, came up and grew vigorously, some of them throwing up five and six shoots. JENNY DARE.

[The last winter was exceptionally mild, so that in sheltered places frost penetrated the soil but a few inches, and bulbs below this line may have kept in perfect condition. In fact, they may be wintered outdoors anywhere, provided the ground is dry, and mulched sufficiently to exclude frost; but, as the bulbs increase in number, they would soon become too crowded.—ED.]

DOUBLE ACROCLINIUM.

Acroclinium roseum flore pleno.

The original single form of this beautiful everlasting flower has, ever since its introduction from Australia, been a great favorite in the flower-garden, and when dried, its delicate pink, daisy-like flowers, with yellow center, have become almost indispensable in the composition of wreaths and bouquets.

The new double variety represented in our illustration is certainly a great improvement, and a most beautiful and valuable novelty, possessing all the delicate tints and shades of the single form. It comes almost entirely true from seed, giving about seventy-five per cent. of double flowers, which are a little larger than the single ones.

The seed may be sown in the open border in May, and will produce a profusion of flowers in time for drying for winter bouquets, for which purpose they should be cut the first day they open, and carefully dried in the shade. A prolongation of flowers may be had by sowing the seed in a hot-bed, or in boxes in the house, and transplanting afterward the young plants to the open ground.

HARDY HERBACEOUS PLANTS.

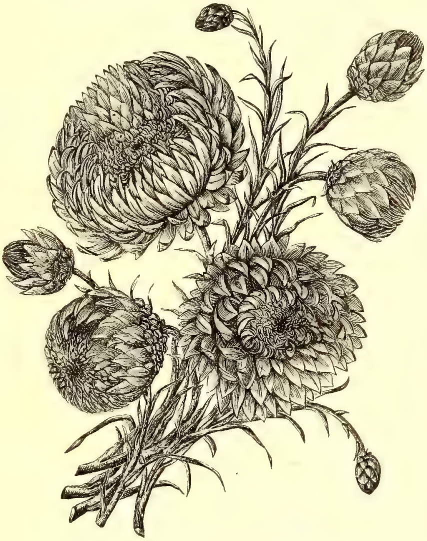
The increasing interest in the cultivation of Herbaceous Plants makes itself decidedly felt in the frequent discussions of the subject before our foremost Horticultural Societies. The Massachusetts Horticultural Society especially has devoted much attention to this class of plants, and the following remarks, condensed from *Mr. W. H. Manning's* address before a recent meeting of this excellent institution, cannot but be of interest to many of our readers:

The use of tender plants and annuals for bedding purposes in summer decoration has been in vogue for about a quarter of a century, and they have almost entirely superseded hardy Herbaceous Plants for general cultivation. Extremely brilliant and beautiful effects are produced by them in beds, ribbon-gardening and mosaic work, and in many situations it is not desirable that they should be superseded by anything less showy; but that hardy Herbaceous Plants should be used more generally in the place of tender plants, and many annuals, and to a considerable extent for bedding purposes, is desirable.

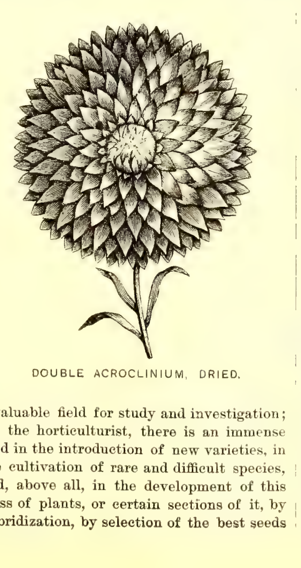
The yearly renewal of tender plants requires considerable expense every spring, when there are no means for keeping them through the winter. When such means are at hand, a skill in propagation, preparation of the soil and after-cultivation that most persons are unable to give, is required to insure success. The seeds of most annuals must be carefully gathered each fall, planted in the spring, watched and cared for during germination, and then often transplanted or thinned out. These plants seldom afford flowers until June or July, and are killed by the first frost, and after this the bed is a mass of decaying vegetation or bare earth.

Hardy Herbaceous Plants, the first cost of which is but little more than tender plants, in good garden soil will live and blossom without failure year after year, and are continually increasing, so that a person, with little trouble or expense, can enlarge his own stock of plants and give to his neighbors.

With a proper selection of one or two dozen species, flowers will be had from the time the ground is open in the spring until it is closed by the severe frosts; and, with a greater number of species and varieties, all colors can be found among the flowers at any time during the season, and in a collection of hardy herbaceous plants there is a never-ending variety and source of investigation, study, and experiment; for the lover of flowers there are new beauties every day, and new flowers open for his pleasure at short intervals; for the botanist, a large collection of herbaceous plants is a valuable field for study and investigation; for the horticulturist, there is an immense field in the introduction of new varieties, in the cultivation of rare and difficult species, and, above all, in the development of this class of plants, or certain sections of it, by hybridization, by selection of the best seeds and seedlings, and by careful propagation of sports and curious variations.



DOUBLE ACROCLINIUM, FRESH.



DOUBLE ACROCLINIUM, DRIED.

See what has been done with the Hollyhocks, Phloxes, Irises, and Delphiniums. Why not improve other flowers as well? In England, the Pentstemons of our country are found to vary freely under cultivation, and fine varieties have been obtained in all shades of red, blue, and orange-scarlet. Here is a broad field for any cultivator who wishes to work up some specialty. The Anemones are another promising class for cultivation; the beautiful European varieties of *Anemone coronaria* are not hardy here, but there are hardy species and varieties, with shades of red, blue, white, yellow, and greenish-yellow, and double varieties. The Lilies are a most interesting class for the hybridizer to work among, and many other promising flowers might be mentioned; but any person who is sufficiently interested will find them for himself.

Where room and money are limited, a hardy herbaceous bed is preferable to the usual bed of tender plants or annuals. The herbaceous bed may not be so showy, but to the constant observer it is many times more interesting.

The usual arrangement of a hardy herbaceous bed is with the taller plants behind, or in the middle, descending gradually to the low-growing species on the edge. Regard should be had to a proper contrast of colors, and a sufficient variety in the plants; but we can vary this arrangement, and produce fine bedding effects with hardy plants.

Most of these plants require no special cultivation; they will succeed in good garden soil, which should be well enriched when they are planted, and whenever the roots are divided and reset, which should be in the fall, with protection through the winter, or early in the spring, and as often as every three or four years, or they will exhaust the soil about them, and begin to die out in the middle, or will disappear entirely.

The beds should be kept free from weeds. Many of the tall-growing plants will require staking; the stake should not be conspicuous, and care should be taken that the form of the plant is not disfigured by tying.

THE WILD GARDEN.

The wild garden is a desirable feature in an estate where there is plenty of room and a suitable place. Here fine foreign flowers can be introduced among the already growing natural ones with fine effect; beautiful aquatics in the waters; bog plants in these places, and woodland plants among the trees, giving each plant the place most suited to it; and the natural beauties of a place can be greatly added to without giving an artificial appearance.

Hardy succulents are used with a fine effect in separate beds, and they will, no doubt, have a more prominent place in the future garden. They will grow in the most barren spots. In many of them the arrangement of the leaves is very pretty, and others have fine flowers. Although some of the most beautiful succulents are not hardy, many may be wintered out-doors by mulching them.

Lawn and Landscape.

A DESIRABLE VARIEGATED PLANT.

(Ligustrum Japonicum.)

One of the most satisfactory variegated plants that I have ever grown is the Japan Privet. It has the merit — which most variegated plants do *not* have — of being reliable and easily grown. Variegation, we are told, is a disease, and most plants we try to grow for the beauty which this disease gives them, — this hectic which ought to make us sorry for them, I suppose, — are so far gone that it is a constant fight with nature to keep vitality enough in them to make them worth keeping at all. I think any one who has attempted to grow the Geraniums having pale and white-edged leaves will understand precisely what I mean. Under some circumstances they may be grown successfully; but in the window, no sooner is a leaf developed than it fades, and the consequence is, all the foliage we have to show for our labor and anxiety consists of two or three leaves on the end of a naked stalk. With plants having a variegation of yellow and red it seems different. These colors may be symptomatic of the first stages of disease, but white markings seem to indicate a development of inherent weakness to a dangerous extent, and stimulants have to be resorted to to keep up a show of life, which is liable to collapse at any time.

The Japan Privet is the only plant I have ever had with white variegation that has grown well without much stimulation, and retained its white leaves. One peculiar charm of the plant consists in its eccentricity Sometimes an entire branch will have white leaves. Sometimes all the leaves on a branch will be green. Then a branch will put forth leaves striped and splashed with white and pale creamy yellow, as if undecided about what to do, and concluding to try to please both branches of its family by combining their characteristics. The mixture of green branches and white ones gives the plant a most graceful and charming appearance. The habit of its growth is much more graceful than that of most plants grown for their foliage, as it puts out a good number of branches of a slender, spreading habit, thus forming a plant well adapted for grouping with flowering plants which have nothing to speak of in the way of leaves. Set in the middle of a stand containing half a dozen Geraniums, it will furnish foliage enough for them all if they will supply flowers, and it is very effective when so used, as its bright green and pure white and creamy white leaves harmonize well with scarlet or rose color.

The green branches grow much faster and more robustly than the white ones do, and it is often necessary to remove some of them altogether, or cut them back severely. It seems to show a constant effort to revert to its normal condition, as if nature was making great exertion to throw off the disease. But my plant has never disappointed me as my white-leaved Geraniums have. It has always retained its variegated and white leaves tenaciously, and the branches have never become naked, as has always been the case among my Geraniums. I keep my plant trimmed back among its green branches enough to make about an even thing of it between green and white. In order to secure the best results, it is necessary to keep the plant growing. I do not give a soil rich enough to encourage a rank growth — rather a steady and more healthy one. I use ordinary potting soil, such as I give Geraniums. I do not give my plant much direct sunshine, as I think its white variegation comes out best when it is kept back a little from the glass. Grown in a full light, the white becomes a pale yellow, which is not as beautiful. I have a plant three years old, which has reached a height of three feet and spreads out on all sides enough to fill a circle of three feet in diameter. Used with other plants, or alone, it is very beautiful, and always attracts a great deal of attention. I seldom see it in collections. I wonder why it is not more generally grown? It is not a new plant, and it seems to me its merits ought to have attracted the attention of flower-growers more than they have, so far as my experience goes. I rank it among the best of variegated plants for the lawn as well as the house.

EBEN E. REXFORD.

THE DOGWOOD.

Few of our native flowering shrubs are so generally admired as the Dogwood, probably because it is one of the first to bloom in early spring, and brightens the otherwise somewhat dreary landscape. Like most of our beautiful indigenous plants, it is seldom seen in cultivation; not that it lacks merit, but because it grows wild.

There are several fine species which are extremely showy and easily cultivated, requiring only the customary attention bestowed upon other shrubs.

Cornus florida, the large flowering Dogwood, is the first to bloom, being covered by a mass of large white flowers, which appear before the leaves. The blossoms are two or more inches in diameter, and so profusely produced that the tree appears as if covered by a white mantle. This species attains a height of twenty-five feet, and makes a shapely little tree.

Cornus alternifolia is not quite as tall as the former, and can be trained either as a tree or a shrub. It blooms a little later than the preceding, and produces its flowers in open clusters.

Cornus paniculata is, strictly speaking, a shrub, growing from three to eight feet high, and branching profusely. The flowers are pure white, and produced in large quantities, appearing early in June, about the time when the early flowering species are done blooming.

Like most native plants, they may be readily transplanted and improved by cultivation. Young plants only should be selected from situations where they may be easily removed without injury to the roots. Care in digging them is necessary, as the wild stock seldom has an abundant quantity of fibrous roots near the stem, and upon these the life of the shrub depends.

Transplanting may be accomplished either in the fall or early spring, If feasible, it is a good plan to dig the trees in the fall, keep them heeled in during winter, and plant as early in spring as the ground can be worked. The young wood should be cut back severely, and the older branches trimmed to the desired shape. IKE IVY.

The Window Garden

AND GREENHOUSE.

A WATER-PLANT FOR THE WINDOW.

At the recent meeting of the New Jersey Horticultural Society at Freehold, Professor Samuel Lockwood, the naturalist, exhibited a bit of window-gardening, the novelty and effect of which attracted much attention. It was simply a glass jar, containing water, in which was a specimen of Hornwort, *Ceratophyllum demersum*. The plant had an extremely graceful appearance, looking like exquisite plumes. The professor said the plant had been in the jar *four years*, and during that time he had cleaned the jar only three times. A slight film of conferva having grown on the sides, of course he never changed the water — simply added some for evaporation. He kept it in a sunny place in the window for two reasons: the plant liked the sun, and its appearance there was the most beautiful. If the green scum did appear, he put it in the shade for two or three days, and that cured it.

The Hornwort is a common water-plant, growing in slow streams and ponds, and may be procured at any time in summer. The specimen shown was found near Trenton.

The professor illustrated the phenomena of size in vegetable growth in the tropics, and the temperate zone, by a pretty device. He spoke of the white Water Lily, our summer favorite, and of its great yet beautiful sister, the Victoria regia. He said he saw it in flower at Kew Gardens, England, and mentioned the fact that, at its first blooming in England, at Chatsworth, under the culture of Sir John Paxton, the great horticulturist, Sir John's little daughter was put on a leaf, as if it were a boat. Each leaf is six feet in diameter, and can sustain a considerable weight.

Then, showing two small glass vessels, the professor said: "Here are two species of floating water-plants showing as great difference in size as the two Water Lilies mentioned. This is the common Duck-weed, *Lemna minor*, of our ponds. It is probably the smallest flowering plant known. The width of a leaf is about one-sixteenth of an inch, and the width of the plant, with its three leaves expanded on the water, is about one-eighth of an inch. The flower is so diminutive that few botanists have seen it. Now, here in this jar is another floating water-plant. It is from tropical Central America. Its habits are identical. It floats on the water, its white roots hanging underneath, in just the same way as does the *Lemna*. Albeit its name, *Trianæ Bogotensis*, it might be taken for one of our Duck-weeds. But notice the difference in size. A mature leaf is five-eighths of an inch across, and the plant is an inch and five-eighths in diameter. Its frond then, is ten times larger than the frond of our little Duck-weed, and the plant is eighteen times larger than the plant of *Lemna minor*. The average leaf of our Water Lily, *Nymphæa odorata*, is about four and a half inches in diameter; while the diameter of the leaf of *Victoria regia* is six feet — that is, exactly sixteen times larger. So that we have, in this matter of size, an exact counterpart of these lowly plants and these magnificent Lilies."

EPIPHYLLUMS.

The two species of Crab's Claw Cactus *Epiphyllum Russellianum* and *E. truncatum*, the hybrids of which ornament our greenhouses during winter with their exquisitely colored and strangely shaped flowers, are natives of Brazil, where they are found growing upon the trunks and branches of trees. They are of the easiest culture, blooming abundantly even when small, and adapted as well for the window-garden as the greenhouse. Grafted on the Pereskia stock, with stems from eight to twelve inches high, they make beautiful objects; but much more lovely are they when grown on their own roots and in a basket. They do not want anything else in the basket with them, but show their beauty best when planted alone, the long, fringy flowers being just the kind most suitable for adorning the flat, leaf-like branches, and which are set off to best advantage when drooping over the edges of the basket.

The soil most suitable for them is good, turfy loam, having about one-fourth of thoroughly decayed manure or leaf-mold, well mixed, and sufficient sand to give porosity to the whole, as it is imperative to allow the water to pass off freely, anything approaching sourness of the soil from too much water being detrimental to the plant's growth. When the plants get large enough to be put in five-inch pots and over, they should have plenty of drainage.

Cuttings should be taken off just before the plants begin to grow, and inserted in the cutting-bench, where they can get a good, sharp, bottom heat; when rooted, put into small pots and place near the light. As they increase in size, put into larger pots, and keep growing by giving plenty of water, pinching the points out of any shoots which may be taking the lead. About the month of June set out of doors in a sunny position, and when their growth is completed, withhold water gradually, but not sufficient to cause them to wilt. If wanted to flower in succession, and a good many plants are on hand when housed in the fall, keep part of them in a cool house, and bring into heat as required; but do not water much those kept in a cool house, as they are apt to lose their roots from rot, especially if growing on their own roots. Grown on the Pereskia, they are more hardy, and capable of enduring greater hardships than on their own roots. They can be grafted on some of the Cereus family, but the Pereskia is the best stock for their successful culture. The number of flowers a single plant sometimes produces, when well treated, is astonishing. I counted, to-day, the flowers on a plant growing in a six-inch pot, and the number was seventy-six. The flowers are very useful in the arranging of bouquets and baskets, lasting a good while in perfection after being cut.

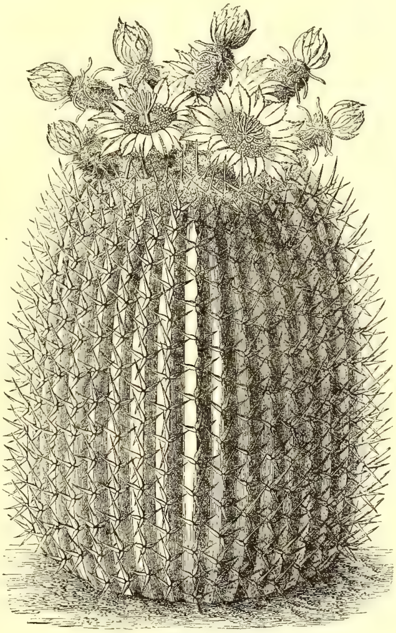
The following are some of the best and most distinct kinds in cultivation

E. Russellianum.—This species flowers later in the season than *truncatum*, and has flowers of somewhat different shape. There are some varieties of this species distinct and superior, the most conspicuous being *rubrum*, having large, bright red flowers.

E. truncatum has large, rose-colored flowers, and blooms earlier in the season than the preceding species. Seedlings from this, and also hybrids between this and *Russellianum*, are numerous, some of them of the most delicate colors. Among them are bicolor white edged with rose, fine; *Ruckerianum*, dark red, violet center; and *violaceum*, pure white, purple edges.

This class of plants deserves better treatment than is generally given to it; although, for all the neglect and inattention the plants receive during summer, they will often bloom during winter. They repay good treatment as well as any plants, and it is during the period when they are least attractive that they prepare for flowering, and should have the most attention.

Mansfield Milton.



ECHINOCACTUS VISNAGA.

ECHINOCACTUS.

This is another genus of the interesting Cactus family, well adapted for house culture. *Echinocactus visnaga*, the Toothpick Cactus, represented in the annexed illustration, reproduced from the *London Garden*, is one of the noblest species of this beautiful genus, and requires only to be seen to be admired. Its flowers, which are produced in profusion on the woolly apex, are straw-colored, their base being densely clothed with wool. The spines, which are in sets of from eight to ten, are very strong, over an inch long, flat and ribbed, and make very good and perfectly harmless toothpicks.

All *Echinocactuses* should have a soil consisting of equal parts of rich loam, thoroughly decomposed manure, and sand. During winter they should be kept in a moderate temperature, in a light window or cool greenhouse, giving them little or no water. In summer, however, when they grow and flower, they require high temperature and a liberal supply of water. Bright sunlight is essential to their vigor at all seasons, but especially so in autumn and winter.

WATERING PLANTS.

Carelessness or imprudence in the watering of plants in winter is the principal cause of the too common saying, "I cannot make plants grow in the house." The same is too often the case in the greenhouse, where plants are bedded out; in this case the gardener is not entitled to any sympathy, for he ought to know the plants' requirements sufficiently well to guard against errors in that direction. Not so with the amateur, who grows only a few plants in pots, for the real pleasure they afford. He cannot afford to lose his plants, and is, moreover, willing and anxious to avail himself of the benefit of others' successes and failures. In this work nature teaches us a beautiful lesson, showing us that all plants are not alike in their manner of receiving moisture. Grass and the common herbs of the field are indiscriminately showered overhead by the rains, but the water that falls upon the trees is warded off as far as the branches extend, and falls, not at the base of the stem, but where the rootlets exist—precisely where it is required.

It is most injurious to any kind of plant to water it, time after time, right on its crown, or to direct a stream of water against its stem, thus laying bare the roots and making a hole in the middle of the soil in the pot, just at the stem. If we notice the position of any permanent plant, as a tree or a shrub, growing in the field, wood or garden, we will find that the stem rises from the ground on a little hill rather than from a basin-shaped hollow.

After plants are freshly potted, and in the case of seeds and young cuttings, water should be applied evenly over the whole surface of the soil. through a fine rose; but when the soil becomes compact, and the plant has acquired strength, water may be applied more liberally, and then always around the edge, instead of the middle of the pot.

Do not water a plant till it needs it, then do it thoroughly; fill the pot to the brim, and, if that is insufficient to moisten the whole ball of earth, give more. If the plant is somewhat moist, but not enough so to do without water until the next watering time, then give it a less quantity than you would a dry plant. Dribbling, or, in other words, giving a few drops every day to every plant, is miserable practice, by which wet plants are made wetter, and dry ones don't get enough.

Apply manure-water to strong, vigorous, rapid-growing plants, as you would strong food to a hard-working man—they can stand it; but poor, dyspeptic plants cannot digest strong food, and require a light diet; let all such plants beg until they go to work, before you feed them heartily.

Linnæus.

Foreign Gardening.

A VINEYARD ON THE RHINE.

The Royal Academy for instruction in fruit and wine culture is located at Geisenheim-on-the-Rhine, twenty miles below Mainz. Johannisberg, Rüdesheim, and Geisenheim are the three villages where the most famous of the Rhine wines are made; and the comparative excellence of the three brands stands in the order in which I have named the places that produce them. These towns are within half an hour's walk of each other, and one can see them all at once from any hill on the river's bank. Geisenheim is a fine old German village, with narrow, roughly paved streets and quaint dwellings, some of which were standing, I believe, when the ancient robber-knight watched the Rhine from the castles whose ruins now crown the heights above.

The Geisenheim Academy was established by the Government ten years ago, and its purpose is to conduct experiments and make experts in fruit and grape culture. Its buildings occupy an elevated slope above the town, and the experimental grounds comprise altogether some fifty acres, divided for special products into five different inclosures. All that I have seen or heard in the course of my inspection shows the thoroughness and accuracy peculiar to the German system of special education; and the extreme kindness of the officers, especially the director and the chief gardener, has made my task pleasant as well as profitable. November 3d, I spent several hours in the Experimental Vineyard, which occupies six and a half acres on a southern exposure, a hundred feet or more above the Rhine. It contains three hundred and fifty varieties, which may be divided, as to color, into black, white, green, purple, and red.

The entire experiment in vine-growing is, I hardly need say, only a patient and protracted search for an answer to the question, "What Grape will produce the best quality of wine?" Even if the vine bearing such ideal clusters were found, it must still fulfill certain other conditions, or it will be comparatively worthless. It must be productive, hardy, seasonable, and, above all, it must, either by its own root or by graft, repel the phylloxera. This terrible grape-pest, by the way, has not yet reached the Rhine; but it is only fifty miles distant, and its coming is looked for with a great dread. The York Madeira is found to be proof against its ravages, and the root is, for this reason, now used everywhere on the Rhine for grafting.

But the vineyard is full of interest as a mere picture. The straight rows run up and down the slope, three and a half feet apart, and at intervals of ten yards they are cut at right angles by walks six feet wide. The stakes, which are uniformly four feet high and two inches in diameter, are set a foot apart in the row. Each variety occupies half the row, which runs from walk to walk, and has generally five stocks, whose branches are spread and neatly tied to fifteen or eighteen stakes. In this way every variety under experiment is accessible from one of the walks, so that the experimenter can easily note its progress. The entire ground is a model of clean culture, and not a single weed can be found in the whole six and a half acres.

Though the peasants have assured me that the wine-crop this year is a failure, yet the Grapes on many of these varieties hang just above the ground in clusters that are wonderfully beautiful and abundant. Here is the whole catalogue of German wine Grapes, and Grapes from Greece, Portugal, France, England, and America to boot. My guide, Professor Seligmüller, proposes, in the kindness of his heart, that I taste a specimen of each of the varieties; but that, I tell him, with thanks, is a task far beyond my capacity. I taste of twenty or thirty only, and find them all delicious. Even our old friends, the Isabella and Catawba, have been improved in flavor by expatriation; but this does not save them, for the Professor, who kindly makes entries in my note-book, has written after both an epithet that means "worthless," and after one of them is added the adjective "fuchsig," which implies that it has been weighed in the balance for "foxiness," and not found wanting.

These experiments have lasted several years, and though many sorts have proved their value, no superior variety has yet been found; and the old White Riesling is still master of the situation, being, *par excellence*, the wine-Grape of the Rhine. But when the phylloxera comes, the Riesling must go, and be replaced by some hardier vines whose roots are capable of resisting the destroyer. Several new varieties produced by crossing are on trial, but it is not time as yet to determine their rank. Indeed, it requires ten years to test an old vine from a foreign climate, and not less than fifteen to produce a new one and establish its character. The Professor holds that it is glory enough for any one man to create a single superior vine and settle its genuineness by twenty years of assiduous watching and patient waiting. Think of that, ye restless mortals at home, who demand that an experiment requiring more than a decade shall be completed and its results announced in a couple of seasons!

I might go on to describe the incidental experiments also in progress on these grounds, namely: the various chemicals applied to the stakes to increase their durability; the different methods of pruning to stimulate productiveness; the dozen commercial fertilizers repeatedly pitted against "cow-manure" in Grape-raising, and always beaten; but I forbear. Across the ocean comes the editorial precept: "Write clearly; pointedly, if you can; but, at all events, briefly."

But, before I leave this attractive spot, let me give a single glance at the landscape around. In the rear, terrace above terrace, rise the vine-covered steeps; and in front I look down upon the dark-slated and red-tiled roofs of Geisenheim. Along the farther side of the ancient town runs the famous river; directly opposite, at the mouth of the river Nahe, lies the old picturesque town of Bingen, renowned in legend and song; to the right, the beautiful castle Rheinstein, now rebuilt in its original style, and richly furnished; and farther still, even to a dim distance, great masses of mountain reach upward and mass their rugged outlines against the sky. There are other picturesque rivers and mountains on this planet of ours, but none, as I think, quite equal to the region of the Rhine.—*President A. S. Welch, in New York Tribune.*

SLUG-HUNTING.

One of the pleasures of European gardening for ladies consists in hunting for slugs, which Emily Culverhouse describes in *Gardening Illustrated* as follows: "Armed with a lantern, and child's toy-pail, containing a little pickle of salt and soda, in my left hand, and a pair of slug-tongs in the right hand, I go out hunting every fine evening, and I have destroyed this season over six thousand slugs, snails, wire-worms, leather-grubs, etc., in my small garden-plot. The enemies are easily seen, caught, and killed; and surely this method is more humane than to cut the slugs asunder with scissors, or spike them with needle-points on the end of a stick. The tongs are simply made of a piece of thick galvanized iron wire, about twenty-four inches long, bent to the shape of a pair of fire-tongs, and the ends beaten flat for about an inch."

AN OLD GARDEN.

The palace and garden of the Conti Giusti, Verona, Italy, described in the *London Garden*, have been in uninterrupted possession of the family for over eleven hundred years. The garden, which is purely Italian in style, is furnished with hedges of Privet and Box, cut mural fashion, two feet or more thick, and some eight feet in height. Its most striking features are its gigantic Cypress trees, of which there are more than two hundred specimens, some looking very healthy and youthful, though from six to seven hundred years old, and from one hundred and ten to one hundred and thirty feet in height. A horizontal Cypress growing here, said to be over one thousand years old, is fourteen feet in circumference at three feet from the ground, and is one hundred and twenty feet high.

RAILWAY GARDENING.

In many parts of Belgium, the land belonging to railway companies has been planted with fruit-trees and other things many years; and in Wurtemberg, for about twelve years past, a forester has had charge of the lands. He pays particular attention to planting the slopes of excavations and embankments to prevent washing and slipping, grows quick fences, and, where practicable, fruit and timber trees. The gardens at the stations are largely devoted to fruit, and so made useful and ornamental at once. A profit of about fourteen dollars an acre has, it is said, been made for the past five years.—*Engineer.*

STRAWBERRIES FOR TABLE DECORATION.

Strawberries, as a rule, are grown to eat; but there is no reason why they should not gratify the eye as well as the palate, and, in fact, I prefer the sight of a Strawberry-house, full of fruit in the various stages of development, to all other sights in the garden. For dinner-table decoration, a center-piece, or two side groups, consisting of about half a dozen pots of ripe Strawberries, bedded in moss, is, according to my idea, perfection, the foliage being so ornamental, and the glistening fruit under strong light so tempting. Any one who has only had Strawberries handed round should try how much better they are when gathered from the growing plants on the table.—*London Garden.*

Miscellaneous.

TROPICAL FRUITS.

NUTS.

Castanea, or Brazil Nuts, as they are called in the United States, are the fruit of *Bertholletia excelsa*, and the trees form large forests on some of the Amazonian tributaries. The nuts come to the market in large quantities, but are mostly exported, the home consumption, except among the Indians, being comparatively small. They are used in thick drinks, the kernels being ground up in water, but the fresh nuts are not as good as the dry; and the Brazil Nut is better in the United States than in its native country. Two allied species, the "Sapucaia," are much less common and the fruit more highly esteemed. The lid of the great capsule of these trees opens when the nuts are ripe, and the fruit falling to the ground is greedily sought by monkeys, parrots, and some species of rodents. It is very sweet and of pleasant flavor, and commands in the markets a much higher price, selling for eighteen milreis, about nine dollars, a hectolitre here in Para, while Brazil Nuts bring only seven to eight milreis.

We have seen no other tree-nuts in Brazil, though some wild fruits have hard, woody capsules.

PIQUIA.

A most peculiar fruit is the Piquia (pronounced Peeheeä), botanically, *Caryocar Brasiliense*, or *butyrasum*. It is as large as a good-sized Apple, with hard, russet-colored shell. When ripe, this shell is easily broken; within is the seed, covered with a thin layer of a rich, yellow, buttery substance, of pleasant smell. These seeds are boiled for about an hour, when this layer becomes soft and can be scraped off with a knife or spoon. It is very rich, oily, of very pleasant, but peculiar taste, and somewhat resembles the richest butter. Although at first too rich for one not accustomed to it, a taste for it is soon acquired, and it is very wholesome. The tree is a giant where all the trees are large, and often so tall that, to the naked eye, the great fruit looks the size of a big marble. The flower is large, white, with many stamens, and has a disagreeable odor.

There are two kinds of Piquia, which differ only in the fruit of one being bitter and only of use for making soap, while that of the other is sweet and palatable. The proportion found in the woods is about five of the bitter to one of the sweet.

COCOA.

The Cocoa (*Theobroma Cacao*) we have described in a former number of the GARDEN. Besides the consumption of the seeds in the form of chocolate, the ripe fruit is in much demand for the acid pulp which surrounds the seeds. It is a very pleasant subacid, of which one does not tire, and should I write the number of Cocoa fruits from which a lazy man can suck the seeds in a day, it would be set down as a "traveler's tale." This juice, which, when pressed out, forms the delicious "Wine of Cocoa," is very wholesome, and is the most delicious drink of the many in Brazil. Unfortunately it soon ferments, and cannot be preserved in its freshness more than a single day.

INGA.

Other trees also yield fruits which have an acid, or sweet pulp surrounding the seed. Of these we may especially mention the species of *Inga*, which have long pods full of large black seeds, enveloped in a very sweet pulp, and which are often seen tied in fagots and carried around the streets for sale, on women's heads.

The trees are almost always in fruit and flower, and the flowers, which are white and very fragrant, are favorites with the many bright humming-birds, and, at night, of the large moths. The fruit of the "Marimari" *(Geoffroya superba)* much resembles that of the Inga, but is not as sweet. The tree is one of the most beautiful in the forest, and when seen covered with the great spikes of bright yellow flowers is indeed "superb."

E. S. RAND, JR.

A MAGNIFICENT CAMELLIA.

Among the curiosities of Southern California is a Camellia growing in the garden of Col. Bond, of Santa Barbara. This plant measures over six feet in height and about the same number in breadth, and has on it, during its season of bloom, over three thousand flowers. This plant is well worth a pilgrimage to see it in its pink-and-white glory, and has more than a local reputation. Not all the plants of that sort in the beautiful Valrosa attain such a height by any means. There are very indifferent Camellias growing in the lovely gardens there as well as elsewhere, and bitter complaint that the buds drop off, and that, as plants, they are not adapted to the climate. Some reason must lie behind all this difference of opinion, and it would repay some study to find it out.

"How was this Camellia planted?" was asked of the owner, "and does it belong to any specially vigorous variety?" To the latter question was answered: "No, I do not even know the variety; it was purchased in the market in San Francisco, and the label lost accidentally." To the former question, an explanation of the method of planting was given as a response. Forthwith, another Camellia-bed took form and shape something in this wise: A Celestial gardener (of which race a good one is a treasure) was instructed to dig a hole to come to the top of his head, and as wide as it was deep. "Hum, allee same as a well," was the intelligent reply, and nothing more was said until the five-foot hole was ready, when he was shown a pile of leaf-mold and another of sand. He was instructed to alternate a barrow of each, and as a third ingredient, a layer of chicken-manure. Silently and thoroughly the work went on, until the yawning cavity was closed and the hose-pipe turned on to settle the earth carefully by a prolonged sprinkling. The next day a thriving young Camellia was introduced to its new quarters, which bids fair to rival its famous prototype of Montecito. The original soil of this garden was excellent, but too heavy for flowering Camellias successfully.

Roses were in their glory at all seasons in the original soil, with a yearly supply of manure, and a monthly irrigation in summer. The Camellia requires a thorough saturation once a week, and a location carefully sheltered from the winds. The morning sun is to be preferred in arranging for a bed, and, if possible, a south-eastern exposure.

These conditions carefully complied with, there need be no complaint as to falling buds, and the aggravating habit the Camellia has of standing still in the matter of growth. Give it an acceptable boarding-place and it will repay you a thousand-fold. There *is* a royal road to the culture of Camellias, and, carefully followed, it becomes the very queen of flowers. Three thousand blooms are value received two-fold for all the labor of a five-foot Camellia-bed,—"allee same as a well," in Celestial parlance.

MRS. N. W. WINTON.

MISTLETOE.

The cultivation of this singular parasitic shrub for ornamental purposes is recommended in foreign papers, and young trees with Mistletoe growing on them are offered for sale in English nurseries. It is generally found on the branches of Apple trees, but is not very particular in this respect, and takes its habitation also on different other trees. It may be raised from seed placed in the crevices of the bark of young, healthy branches; or it may be propagated by grafting; in which case, a piece with a portion of the bark of the tree from which it is taken has to be cut with it, and firmly secured to the new position.

The European species is larger and rather more ornamental than our native kind, for which reason the latter might not prove a success for exclusively ornamental purposes; but if some enterprising florist should succeed in raising Mistletoe in neat hanging-baskets, which might be hung ingeniously over doors and archways under which young people of both sexes have to pass,—and older ones, too, for that matter,—there might spring up quite a demand for the "novelty" about Christmas-time.

FLORIDA CROPS.

The great staple crop of Florida, writes the statistical agent of the Department of Agriculture, must ever be its fruits. The Orange may be trusted as far north as the 30th parallel, and in highly favored localities in the northern counties. The Lemon, Lime, and Citron can be safely planted to the 28th, and in favorable locations to the 29th. The Grape Fruit and Shaddock are nearly as hardy as the Orange. The Guava thrives well below the 28th, as does also the Custard Apple tribe and Mango. The Sapadillo and Cocoanut thrive below the 26th, and in favorable localities to the 27th. Pineapples and Bananas can be grown as far north as the 28th, on all the dry lands, when properly fertilized.

RINGS NOT YEAR-MARKS.

It has been popularly supposed that the rings of a tree furnished a reliable record of its age in years. But Dr. A. L. Child writes to the *Popular Science Monthly* that this idea is erroneous. His experiments go to show that the formation and thickness of the rings depend upon the changes in the atmosphere, and the more frequent these changes the greater the number of rings. Trees which he knew to be only twelve years old proved, upon being cut, to have thirty-five to forty rings.

CHARLES DOWNING.

It gives us great pleasure to state that Mr. Charles Downing, the venerable pomologist, has so far recovered from the injuries of his recent accident that he was able to leave this city and return to his home at Newburg. It was our privilege to see him the day before his departure. Although in his eighty-first year, and still enfeebled from the severe shock, his mind is as vigorous and bright as ever, and his interest in progressive horticulture not diminished in the least. May he live many years in health and happiness.

A HORTICULTURAL EXCURSION.

The *Mississippi Valley Horticultural Society* will hold its fourth annual meeting in New Orleans, commencing February 21st, and continuing four days. For members, a very low rate of fare has been granted for this excursion. The round trip fares will be only $20 from Chicago, and proportionately low from intermediate points. Membership, $2. This promises to be the most interesting and enjoyable meeting of the kind ever held. The programme of arrangements and of the papers to be read may be obtained from the president, Mr. Parker Earl, Cobden, Ills.

BROOM-CORN OATS!

Did any one ever hear of such a thing? We certainly did not until a few days ago, when we received a small spike of, apparently, Oats, accompanied with the following note from Mr. J. J. H. Gregory, the celebrated seed-grower:

"I inclose a piece from a head of Oats, measuring twenty-two inches long and growing on a stalk as high as Broom-Corn, over an inch in diameter at ground. Look sharply at the straw, it is Broom-Corn. This came up among a large lot of Broom-Corn, and is the only one I ever heard of. What do you think of Broom-Corn Oats?"

Well, we are too amazed to make up our mind yet what to think about it. The Straw is exactly like that of Broom-Corn, and the glumes like those of Oats. Should like to see the grain and also the plants that grow from it. If it comes to this, that we can hybridize Broom-Corn and Oats, who knows that—by following Horace Greeley's advice —we may yet succeed in growing our own brooms by planting only seed of the kind with rough handles, which is said to be hardier than the painted sort, and offers also the additional advantage that by sowing Strawberry seed among it, the vines will climb up on the handles, so that the berries can be picked without stooping.

CORK FOR COVERING GARDEN-TUBS.

Round or square tubs for garden purposes, says *Gardening Illustrated*, especially when used in houses, are not satisfactory; on the contrary, they often look unsightly in themselves and spoil the effect of the plants. This objectionable feature may be got rid of by covering them with virgin cork, and the effect is extremely pleasing. Round the rims and bottoms of the tubs may be put single bands of cable-rope, which impart to them a finished appearance. Some tubs and baskets may be entirely of cork, but for large plants it is not strong enough.

BOOKS AND PAMPHLETS RECEIVED.

Hints on Fruit Culture.—*Charles A. Green, Rochester, N. Y.*—A neat pamphlet combining, with a nursery catalogue, a good deal of practical and useful information about fruit culture. James Vick's Strawberry a specialty.

The Great North-West, *by Leander H. Crall*, New-York.—A brief description of the resources, the agricultural products, the manufactures, the trade and general prosperity of the North-western States. Illustrated with diagrams. For the use of merchants, manufacturers, and others engaged in trade with the West.

The Builder.—A journal for those who build. The initial number of this handsome and neat monthly, published by *C. W. Bryan & Co., Holyoke, Mass.*, is before us. It is edited by *Mr. E. C. Gardener*, the well-known architect, and accomplished author of several architectural works, which alone furnishes sufficient guarantee as to its reliable and practical, as well as entertaining character. The first number is brimful of valuable matter, interesting to all who intend to build or repair—and, in fact, to all who dwell in houses. The typography and general make-up of the paper is, as everything that hails from the "Paper World Press," all that art can make it.

The Continent, *Philadelphia*, conducted by *Albion W. Tourgée*. An illustrated weekly magazine. Among the literary and belletristic publications which find their way regularly to our table, none are more welcome than *The Continent*. It is a large, handsome journal, copiously and beautifully illustrated, and always full of interesting and instructive matter, contributed by some of the foremost writers of the day. The last number contains, among other interesting features, An Old Dutch Settlement, by Eleanor M. Lawney; An Art for Enthusiasts, by L. W. Miller; Kentucky's Birthplace, by Henry Cleveland Wood; Belinda, by Rhoda Broughton; Terra Cotta in Decoration and Architecture, by Hester M. Poole; Central American Woman, by Dr. Ferd. C. Valentine.

Gardening for Young and Old, *by Joseph Harris*, the celebrated author of several agricultural books, and especially the far-famed "Walks and Talks." A work of this kind has long been needed, and we do not know any one who, by his practical experience as well as scientific training, is more fitted and competent for the task than Mr. Harris. The principal object of the work is to induce the young to devote more attention to gardening, and especially to the modern, simplified systems, by which garden crops can be grown as easily as field crops, and much more profitably. In his usual forcible and sprightly style the author treats Old and New Gardens, Gardening for Boys, Preparation of the Soil, Killing Weeds, High Farming, Competition, Manure, Implements, Starting Plants in the house, Hot-beds, Cold Frames, Insects, Use and Care of Poisons, followed by concise, practical directions for the cultivation of all the leading kinds of vegetables and garden flowers. The book, which ought to be in every farmer's library, is handsomely printed and attractively bound, and is published by the Orange Judd Co., New-York.

ANSWERS TO CORRESPONDENTS.

Chinese Lilies.—In answer to *Miss M. T. F., Claverack, N. Y.*, a correspondent writes: "I had some sent me from California. They are not Lilies in any sense, but *Narcissus Polyanthus*, which is not hardy as most Lilies are. They were described as white, with yellow band in the center of each petal; and I thought, before receiving them, they might be Auratums, but wondered at the price, which was very low."

Squash Bugs.—*B. C. R., Atchison, Kansas.*—When the Squash-beetles appear in large numbers, all the milder remedies, as ashes, bone-dust, plaster, etc., fail to accomplish the desired object, and unless radical means are employed the vines will be lost. Paris green, either dry or mixed with water, does the work, but the vines have to be watched carefully, that the poison may be employed as soon as the insects first appear. We have also used "Hammond's Slug Shot" with entire satisfaction, and it is more convenient for use, and less dangerous than Paris green.

Fuchsias.—*Inquirer.*—Fuchsias do not flower well in winter; their season of glory is summer. They thrive best in a soil composed of one part of peat, one of loam, and one of leaf-mold, mixed well together; and they require good drainage. During winter they should be kept rather dry and cool; a cellar free from frost is a good place for them. In spring they should be cut back, and planted in rather small pots. When they commence to grow they have to be kept in good, vigorous, growing condition by re-potting frequently, and never allowing them to become pot-bound. During summer they should be kept in a cool, partly shaded situation.

Hoya carnosa.—*Mrs. M. L. H., Rutherford Park, N. J.*—The Wax-plant—the common name of this beautiful evergreen climber—seldom makes much growth before its second year. The branches should be tied to a trellis or trained around a window. It requires no pruning whatever, except when desired for special forcing. The flowers form in the axils of the leaves, and their coming is anticipated by the appearance of small, reddish spurs. The old bloom-stalks should never be removed, as they put out flowers year after year.

The specimen sent is too imperfect to determine it positively. It is probably *Salvia coccinea*.

English Sparrows.—*A. P.*—These imported birds are an unmitigated nuisance, which seems to baffle all attempts of eradication. Destroying their nests does but little good, as they drive other birds from their nests and take possession of them. It has been recommended to scatter poisoned grain about the places frequented by them; but as this would kill friends and foes alike, it is rather a doubtful proceeding. At the last meeting of the New Jersey State Horticultural Society, the sparrow had not a single friend, and a resolution recommending its extermination was passed, as "it drives away insect-destroying birds, while it eats our grains and fruits."

Cranberries.—*J. S., Caledonia, N. Y.*—Cranberries are grown most successfully in damp, marshy soil, containing a good portion of sand. The main consideration is not so much the moisture of the ground as the facilities for flooding the entire plantation in order to kill the noxious insects which prey upon the plants at certain seasons. The plants are usually set out in spring about two feet apart each way. Until the vines have covered the entire surface the ground has to be kept entirely clean; afterward but little cultivation is required. The profits are, as with other crops, variable, and depend upon the conditions of the seasons, markets, and the care given.

Layering Roses.—*Mrs. M. O. H., Canada.*—Layers of Roses and other shrubs are best made of young wood, that is, of shoots of the same season's growth. Plants intended for propagation should be severely pruned in spring, so as to produce strong roots. July is the best time for layering. The shoot to be layered is bent down, and as near to the stem as it touches the ground readily; it is cut about half through, and by turning the knife sideways, a split is made about an inch long. At this point the shoot is buried in the soil two or three inches deep, and fastened with a hooked stick, or with a stone laid on the top of it. The upper part of the shoot has to be tied to a stake. In the following fall or spring the layer is cut off between the rooted part and the stem, and transplanted, at which time the top should be pruned back to within about a foot from the ground.

QUERIES.

Incubators.—I expect to invest somewhat in the poultry business this spring, and apply to you for information as to where I could purchase or receive instructions as to the construction of an Incubator. Any information on this subject will be thankfully received.—*R. M. P.*

Removing Old Paint.—Is there any method by which old paint can be removed from stone? A former proprietor of our house had the poor taste to cover with paint the elegant stone window and door frames, corner trimmings, balconies, etc. I should be glad to restore the natural stone if possible.—*A. P.*

VALUABLE PREMIUMS

To Yearly Subscribers to the American Garden for 1883.

Encouraged by the great success of our premiums sent out in previous years, and desirous to introduce the AMERICAN GARDEN into every home, we offer special and most liberal inducements for the coming year.

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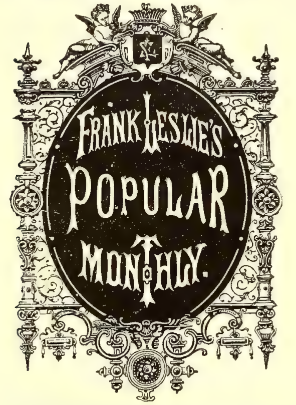

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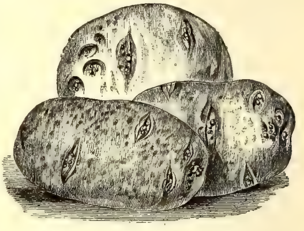

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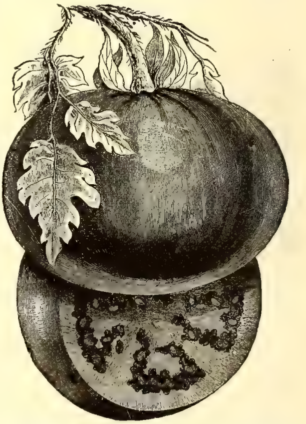

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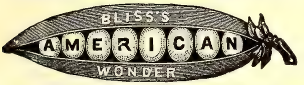

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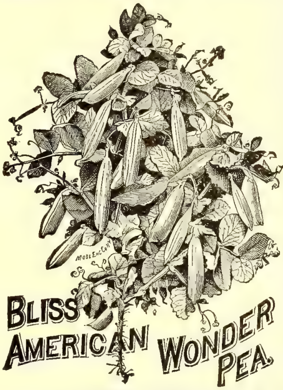

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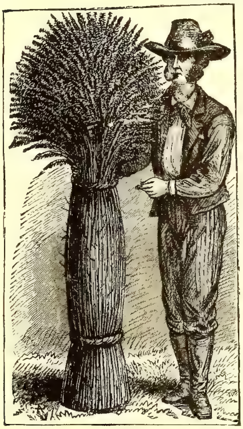

We offer these cereals, with the **privilege of competing** for above premiums, among the premiums to subscribers to THE AMERICAN GARDEN for 1883.

PRINGLE'S AMERICAN TRIUMPH OATS.

This variety, now offered for the first time, is a cross between the Excelsior and the Waterloo Oats, combining, in a remarkable degree, the excellent qualities of both. To present a clearer idea of the character of its growth than words could give, we had a photograph taken from a sheaf chosen at random in the field. The man holding the sheaf was **5 feet 10 inches high,** so that, by comparison, the proportionate sizes are readily seen in the annexed illustration.

The average height, as the grain stands in the field, is six feet, yet the straw is so strong and firm that it holds up well, without lodging, the tall, luxuriant heads filled with plump, heavy grains. The quality and productiveness of the grain are unexcelled, yielding from 50 to 100 bushels per acre, according to the condition and state of fertility of the land.

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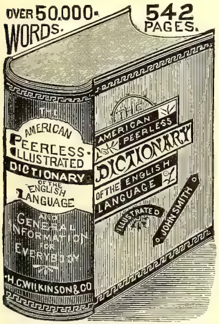
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169 Jennie the Flower of Kildare.
170 I'm Lonely Since My Mother Died
172 Tenting on the Old Camp Ground.
176 Don't You Go, Tommy, Don't Go.
180 Willie, We have Missed You.
182 Over the Hills to the Poor House.
185 Don't be Angry with Me, Darling.
191 Flirtation of the Fan.
194 Why did She Leave Him? [other.
196 Thou Hast Learned to Love An-
203 There's None Like a Mother.
204 You Were False, but I'll Forgive.
209 Whisper Softly, Mother's Dying.
211 Will You Love Me, Whem I'm Old.
220 Annie Laurie.
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224 Come. Birdie, Come.
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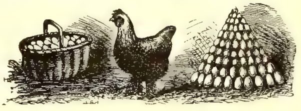

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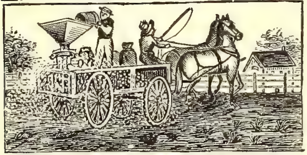

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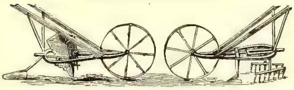

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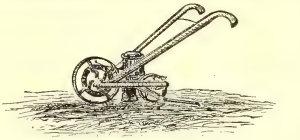

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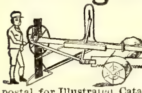

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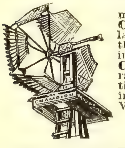

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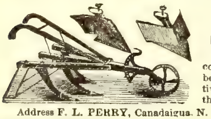

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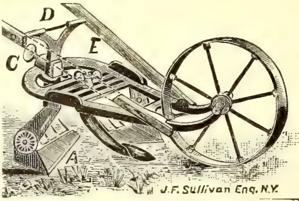

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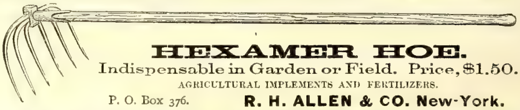

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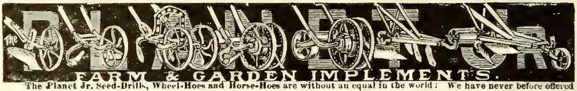

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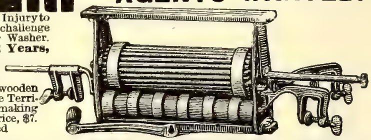

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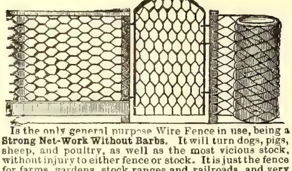

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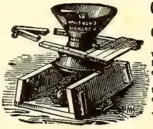

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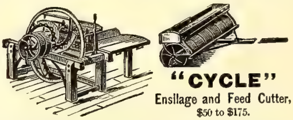

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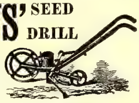

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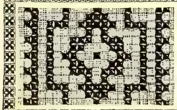

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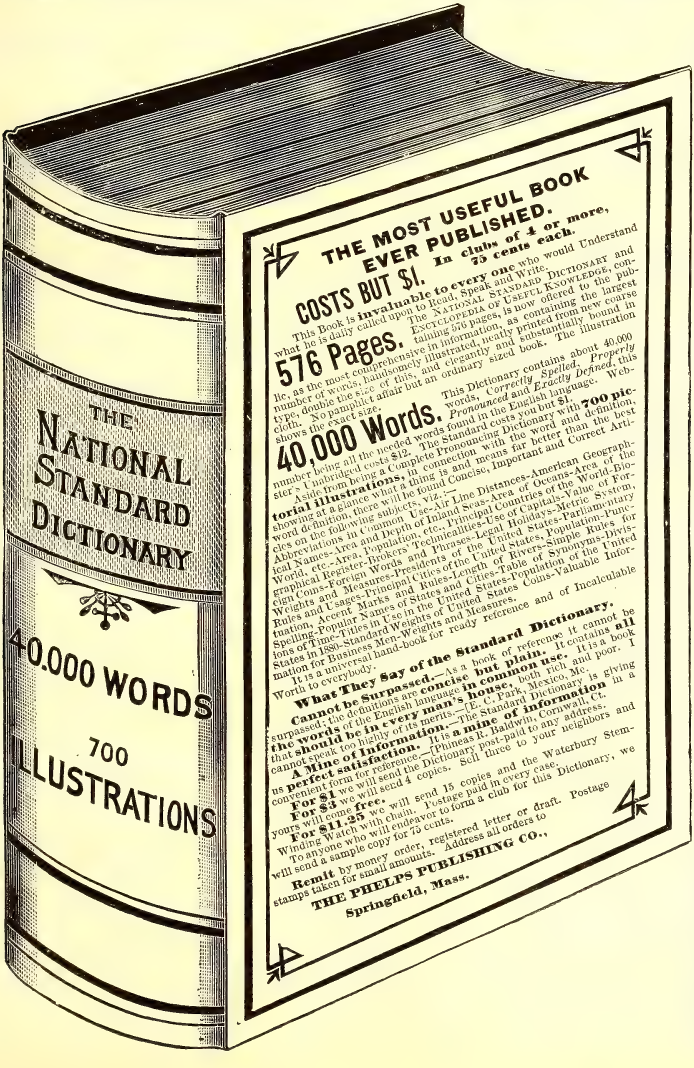

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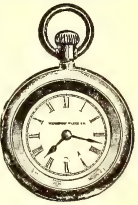

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With The Mapes Potato Manure.

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Fourth Piece.—I planted without any fertilizer of any kind whatsoever.

First Piece.—Yielded at rate of 220 bushels per acre. The potatoes were, however, quite badly cut by the wire-worms and grubs, and quite rough.

Second Piece.—Yielded at rate of 316 bushels per acre, of nice, large, smooth potatoes.

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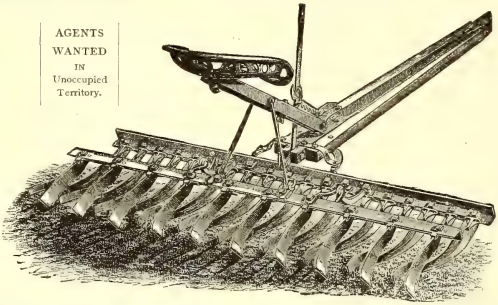
AGENTS WANTED IN Unoccupied Territory.



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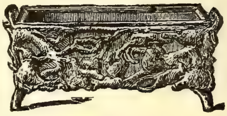

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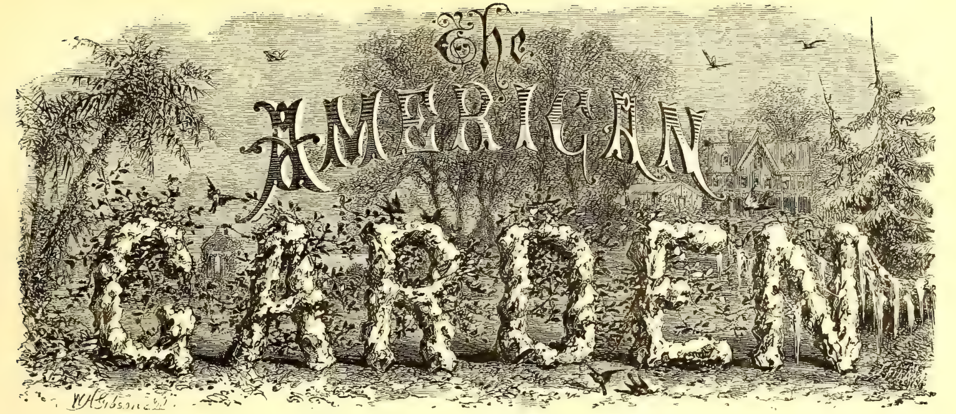

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GIVE CREDIT TO WHOM DUE.

It cannot but be gratifying to any journal to find its contents considered so valuable and timely as to be copied by its contemporaries. But, as the merchant takes more pleasure and pride in selling his goods for a fair equivalent than in having them stolen, so do publishers and editors prefer to receive proper credit for their wares.

There is rarely a mail that does not bring us some exchanges which have copied from one to half a dozen items and articles expressly written for The American Garden, without giving any credit whatever, and it has occurred even that the same article appeared twice in one issue. Now, when editors are so well pleased with our articles as to copy them twice, common fairness should suggest that they were worth crediting.

Being aware that editors are as liable to make mistakes as other mortals, we have sometimes drawn their attention to such omissions. All honest exchanges correct such mistakes as far as possible, and as readily and promptly as a merchant would correct mistakes in filling orders; but the professional plagiarist does not heed it any more to be branded thief, than the pirate. Hereafter, we shall not waste any time and postage in writing to those of our exchanges who we are convinced are purposely and designedly appropriating our articles, and palm them off for their own, but shall simply drop them from our exchange list.

To our many honorable and esteemed exchanges we wish to say, that nothing gives us more pleasure than to see those of our articles which they deem worthy of reproduction appear in their columns properly credited. But please "give credit to whom due;" not to *Garden, Gardener, A. G., N. Y. Paper, Ex.*, etc., but to The American Garden.

We should not have said so much on what may appear to many a trivial matter, and one to which we shall probably not refer again, but for its close relation to the entire agricultural and horticultural interests. What the agricultural press needs, more than anything else, is its improvement and elevation to the standard of its political, literary, and scientific contemporaries; and this can only be accomplished by honorable and fair dealing, and by recognition of real worth wherever found.

WRITE FOR YOUR PAPER.

Some of our readers favor us occasionally with short items about their gardening experiences, and we assure them that we highly appreciate their attentions. Although it is not always possible to make immediate and direct acknowledgment, the suggestions and information thus received clearly indicate the inclinations and requirements of our readers, and assist us essentially in making The American Garden so as to best serve their interests.

WHAT THE HON. MARSHALL P. WILDER SAYS.

"The American Garden is a real treasure, and I not only peruse its columns at once, but mark certain passages as worthy of remembrance. Dr. Hexamer, its editor, is one of the most experienced cultivators and judicious writers in our land."

Marshall P. Wilder.

NOTICES OF THE PRESS.

The American Garden is loaded with fresh and valuable reading. Every department has something good. Its able editor and the intelligent contributors make it a most excellent monthly.—*Republican Standard.*

The American Garden is a bright, wide-awake monthly magazine, devoted, as its name implies, to agricultural matters, and especially to the garden. It embraces among its writers some of the best there are on the subjects treated of; indeed, its editor may be said to be one of our foremost agricultural writers. The subscription price is only $1 per annum, and a premium of new seeds thrown in. At this price it is an indispensable paper to every farmer and gardener.—*Eldora Ledger.*

The American Garden is what everybody who has a garden ought to see; and we have no patience with a farmer who has not a well-kept vegetable and flower garden, especially if he has a family of boys and girls around him. It is now in its fourth year, and is steadily adding to the number of its friends. Something worth knowing about the vegetable garden, the fruit garden, the flower garden, the lawn and landscape, and about foreign gardening, has a place in every number, and any overplus of attractive matter is stowed away under "Miscellaneous." This journal is also illustrated, is issued once a month, for the very low price of one dollar a year, by B. K. Bliss & Sons, 34 Barclay street, New-York. If there is anything better than this for the garden published in this country, we have not seen it.—*Christian Intelligencer.*

The Vegetable Garden.

SEASONABLE HINTS.

Those who have acted upon last month's "Hints" will have everything in readiness for starting their hot-beds. For ordinary purposes, there is little gained by making hot-beds before March. If made earlier they require considerable care and attention, and unless additional frames are at hand, for transplanting and hardening, the young plants become too large before they can be planted in the open ground.

Hot-beds made during this month and later need not be sunk in the ground. The manure may be spread on the surface, making a bed eight feet wide, two feet high, and two feet longer than the length of the frame.

The Location, in either case, should be sheltered from cold winds, and facing south or south-east. Market-gardeners erect tight board fences, six or more feet high, on the north and west sides of their hot-beds.

After the manure has been spread, well packed down, and soaked thoroughly with tepid water, the frame is placed upon and in the center of it. All around, the frame should be banked up with manure or soil.

The Sashes are then placed in position. Sashes are now made so cheap and convenient in factories that few will think of making or having them made to order, as was the usual way in former years. The customary and most convenient size is 3x6. The sashes are not removed or opened for two days if the weather is mild and clear; if cold and cloudy, three or four days may be necessary to develop the proper heat, which is about 90°.

Soil is then loosely and evenly scattered over the manure to a depth of about six inches. This soil should be mellow and rich; equal parts of old, decomposed hot-bed manure and ordinary garden loam make a suitable composition. After leveling all nicely with a rake, the sashes are replaced, and the following day the bed is ready for sowing.

The Seeds are best sown in shallow drills, drawn laterally, and about three inches apart, then covered lightly, patted down and watered. The sashes are replaced again, and during cold nights covered with matting. As soon as the young plant appears above the ground air has to be given on all mild days. A good rule to go by is to lift the sashes one hour after the sun strikes them, and to close them one hour before it leaves them.

As the plants grow larger they have to be thinned out, so as not to crowd each other; or, better still, "pricked out," that is, to transplant to another bed or another part of the same bed, with sufficient room between each other that they may form strong, bushy plants. Water has to be given whenever the soil becomes dry, but it must not be kept soaked continually. Of course, the earth between the rows has to be kept loose and clean.

The most important conditions for the successful management of hot-beds are, that sufficient air is given whenever the weather is favorable, that the plants are never permitted to become crowded, and that water is given only when needed, and then copiously.

CONDITIONS OF SUCCESS IN GARDENING.

Success and failure are not so far apart as some people imagine. A good crop is often ruined by severe storms, and we who live in the Connecticut valley have seen acres of Tobacco, all ready to harvest, ruined in a few minutes by a severe hailstorm. There are many conditions in gardening which go far toward making either the farmer's or the market-gardener's business a success, and which teach him the use of means in this difficult and perplexing business.

The soil is the first important agent to be looked after, for if it is damp, lumpy, or clayey, or barren sand, it is worthless for raising vegetables profitably. A light sandy loam is best suited to all kinds of vegetables, and when thoroughly enriched and carefully cultivated can hardly fail of giving large returns for the labor expended. It is the better way to manure the soil in the fall and give it a heavy dressing, so that it will cover the surface of the soil when plowed in the spring.

The manure should be as fine as it can be made, else it cannot be spread evenly. We would advise a mixture of all the manure made on the farm for application to the farmer's garden. The market-gardener near our large cities gets all kinds of fertilizers, and often fails of raising good crops from using poor manure heated in the stables, and thereby devoid of ammonia, the great agent in plant growth.

Another condition of success in gardening is to have the soil as mellow as plow and harrow can make it; cross plowing and harrowing are necessary in order to get the soil in the best possible tilth.

Still another condition of success in gardening is the selection of the proper kinds of seeds. Some years ago the writer thought he would increase the area of his Onion patch. Looking over the various catalogues, he at length decided where to order seed from. He sowed the ground with a number of varieties, and the crop grew remarkably; but when he came to harvest it, nearly one-quarter of the Onions were Scullions, and therefore worthless, causing considerable loss.

We need hardly say that thorough cultivation of the vegetables is necessary to success in gardening. "A quick growth" is the market-gardener's motto, and it explains in a few words success or failure in the business. Slow-growing vegetables, especially those designed for early spring market, are worthless. Take, for instance, the Radish, that botheration of all gardeners; unless it grows very fast it is worthless, being strong, pithy, and wormy. The same may be said of Lettuce and Cucumbers grown under glass. To obtain early Head Lettuce it is necessary to have the proper amount of heat under the sash, and in warm, sunny days to give them just the right quantity of sunlight. Where so many kinds of vegetables are grown, it will not be strange if some sorts are neglected and receive but little culture.

There are certain vegetables that require repeated hoeing, while others do not. Some need only surface hoeing, while others require the soil to be stirred near the roots. There are a few vegetables grown in the garden that require not much more care than the farmer's field crops, while others should have almost constant care and culture from seed time to harvest.

Some years since a gentleman presented the writer with a few Tom Thumb Peas. It was the second year of their introduction, and so their habit of growth was little understood. In due time we planted them in the garden, the hired man giving them repeated hoeings, and at length bushing with birch switches five or six feet high. The yield was enormous, and we felt confident that the care given them by our help—using ashes and plaster most liberally—proved profitable in the end, and demonstrated the fact that the crops of the garden cannot receive too much care and attention.

E. R. BILLINGS.

WORKING THE SOIL TOO EARLY.

While we are well aware of the great importance of early action in all gardening operations, and are apprised of the fact that hundreds of dollars are often realized by being one or two weeks ahead in market, or that an equal amount may be lost by being a week or two behind a more enterprising neighbor, we find also that heavy losses are often the result of beginning outdoor operations too early, when the soil is not sufficiently dry. If soil is worked in early spring, while wet, it is very injurious, not only to the present crops, but also to the land for years afterward. A part of my garden that was worked while too heavy, although several years since, still shows the injurious effect. The soil cannot easily be made mellow, and when worked after a rain, even when entirely dry, it breaks up in clods that will bake hard.

One season the ground remained wet till late, and I was so anxious to get my early Potatoes in the ground that I planted them when the soil was too heavy. I marked the ground off with a long shovel plow, dropping the seed in, filling the furrow nearly level with loamy compost, and then covered with soil. I thought the loamy manure would make a good loose bed for the tubers even if the surrounding ground was too heavy. But the soil that was put on the manure compacted so hard that it was a long time before the plants came through; consequently my Potatoes were very late, the soil was clammy all summer, and the crop was greatly injured.

Another season I planted Little Gem Peas when the soil was too wet and heavy. They were planted on the 3d of March, and covered with loamy compost. On the 16th of March I planted the other part of the same seed, when the soil was in nice, mellow order. As soon as the vines were large enough they were cultivated every three days, if weather would admit. From the first patch, the first Peas were picked May 25th; from the second, May 27th, the last planting producing the largest pods and yield.

THOMAS D. BAIRD.

DISSOLVING BONES.

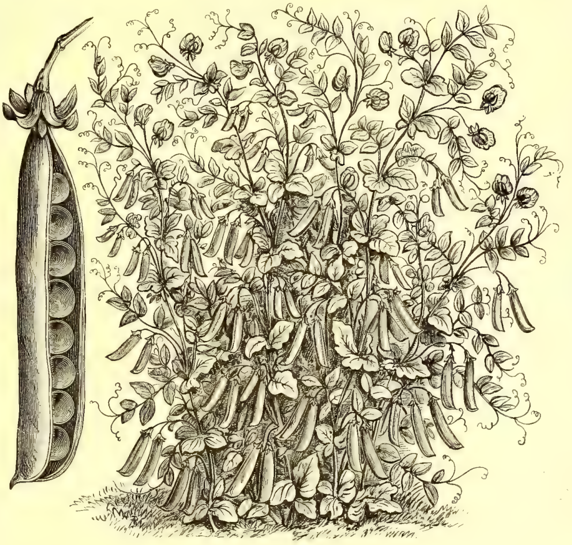
Small quantities of bones can be easily dissolved by putting a layer in the center of the manure when making the hot-beds. Here they are kept constantly wet and hot—the most favorable conditions for their disintegration—and if the larger bones are cracked previously, all will crumble into powder during the season, and, together with the decayed manure, make an excellent fertilizer for any kind of crops.

THE AMERICAN RACER PEA.

Among the premiums offered to our subscribers last year was this then entirely new variety, and although the last season was singularly unfavorable to the development of the best qualities of Peas, a large number of commendatory letters have been received, showing that it has fully come up to expectations. It is therefore again placed on the premium list for this year, that all our subscribers may give it a trial.

The Pea was raised by *Dr. J. T. Hoskins*, the celebrated horticulturist and highly-esteemed contributor of The American Garden. It was produced about ten years ago, by crossing *Carter's First Crop* with *Daniel O'Rourke*, and embodies the good qualities of both its parents. It is a round Pea, of unsurpassed table quality and earliness, producing, even in our most Northern States, marketable crops by the middle of June. The vines grow from three to five feet high, according to the fertility of the soil, continue four to five weeks in bearing, producing most abundantly, as is well represented in the life-like illustration. The pods are well filled, some of them containing as many as nine Peas.

Taking all points into consideration, we do not know of a more desirable early round Pea for home use as well as market.



AMERICAN RACER PEA.

POTATO CULTURE.

Although the cultivation of the Potato is usually considered more appropriate for a farm crop than a garden vegetable, still every well regulated garden should contain at least a few rows of early Potatoes, planted with a view of obtaining their produce some time before the field crop is ready for use. Indeed, if the room can at all be spared, I would advise the planting of a few rows of each of the newer and most promising varieties, as I know of nothing more interesting to the lover of a garden than the opportunity it affords him of testing the comparative worth and merit of our leading garden vegetables.

The Potato prefers a good deep, sandy loam, good cultivation, and to be liberally manured in the drills. Well decomposed stable manure, that has been turned once or twice during the winter season, is to be preferred, and if some bone-dust has been mixed with it so much the better. When grown as a farm crop, if possible select a clover-sod or old sod-land, which should be well turned under in the fall, and lightly plowed and well harrowed in the spring. This, if liberally manured, will, if the season be favorable, produce an astonishingly large crop. It is necessary to plant as early as the ground can be properly prepared. Plant in rows or drills, three feet apart, the sets being placed one foot apart in the row. When the sprouts are an inch or so in length, run a light harrow, lengthwise, across the field, in order to destroy the young weeds; afterward keep clean from weeds by cultivating, hoeing, etc., and, when cultivating, gradually draw up the earth around the plants. In the garden we are somewhat at a disadvantage, as we have no sod to turn under, but this want we must supply by deep plowings, judicious manurings, and thorough clean cultivation.

In selecting Potatoes for planting use medium-sized, well-formed, shapely tubers; cut them into two, four, or six pieces, leaving a good strong eye on each. If a very early crop is desired, it is necessary to sprout the Potatoes before they are planted. For this purpose I know of no better way than to obtain some shallow boxes, three or four inches in depth; in these place an inch of old, rather coarse, stable manure; on this lay the sets as close together as possible; cover them with light, sandy soil, and place in a moderate hot-bed. As soon as the sprouts are about an inch in length, they should be lifted and carefully planted in the drills, on fresh stable manure if possible. Keep the young sprouts well covered with earth whenever frost threatens. By starting them in manure the young roots are not injured by removal, and their growth is not interrupted when being transplanted. They should be started in the hot-bed at least two weeks before they are wanted for planting.

Another method is to cut the Potatoes into suitable sized pieces, and place them in a warm, light room, from four to six weeks before they are desired for planting in the open ground. In this time the shoots will have started strong and vigorous, so that when planted they will send out roots and grow more rapidly than those planted in the open ground.

A great deal of attention has been given to the improvement of the Potato, and since the introduction of the Early Rose a number of new varieties are brought to notice every season, and as the result we have an extensive list of varieties to select from. It is a very difficult task to make a proper selection, for the Potato varies greatly when grown in different soils and situations, and it is only by a careful trial that one can ascertain whether a variety is adapted for his locality. The varieties that have given me very satisfactory results are the

Alpha, the earliest variety in cultivation, maturing its crop in from fifty-five to sixty days from the time of planting. The tubers are of medium size, pure white, with the exception of a reddish tinge about the eyes. When cooked it is dry and mealy, and of excellent quality. The very best variety for forcing.

Early Ohio.—This is a seedling of the Early Rose, which it resembles in color, but differs in shape, being rounder, instead of oval. It is more productive and earlier than the Rose, maturing its crop in sixty-five to seventy-five days from the time of planting.

Early Rose.—This variety is so well known that it is unnecessary to describe it, more than to say it is the leading variety for productiveness and quality, and the most salable market Potato.

Snowflake.—This variety possesses many superior qualities, the only objection to it being that in some situations it is not very productive. It matures its crop a week or ten days later than the Early Ohio; the tubers are of medium size and uniform shape, the white skin having a russety tinge. When cooked it is dry and mealy, and of a delicate, nutty flavor.

White Star is a large, long, white, beautiful variety of best quality. It is a great yielder and good keeper, and is, altogether, as good a winter Potato as can be found.

Beauty of Hebron, Triumph, Early Vermont, Pride of America, and some others, possess equally desirable qualities.

RAISING EARLY CABBAGES.

The former plan of raising early Cabbages by sowing the seed in the fall, wintering the plants in cold frames, and transplanting them outdoors in spring, is being gradually abandoned by market-gardeners. Instead of it, the seed is sown in houses, very early in spring, and the plants are kept constantly growing.

Last year we noticed that a neighboring market-gardener sowed Jersey Wakefield Cabbage on February 1st, on the benches of a greenhouse; a month later the young plants were potted in two-and-a-half-inch pots, remaining in the same house, but receiving plenty of air. About April 1st they were placed in cold frames to harden, and on April 10th they were transplanted to the open field. They kept right on growing, and, although the ground froze hard afterward, did not suffer in the least. They received but ordinary field culture, and were ready for market during July, selling for eight to ten dollars per hundred.

The Fruit Garden.

SEASONABLE HINTS.

March is practically the last of the winter months in the orchard and garden, although in the show-windows of millinery and clothing-stores spring begins the first of this month. All preparatory work should therefore be finished without delay; and especially when it is contemplated to make new plantations or add to old ones, the selections should be made carefully and deliberately, and the trees and plants ordered at once.

Where to buy is frequently a more serious consideration than *what to buy*. Many persons have been so unmercifully swindled by so called "tree agents" or peddlers, that they have wisely concluded to beware of them, and unwisely to set down as a fraud any one who sells trees. Now, the fact is that nurserymen as a class are, at least, as honest and honorable as other business men. The very nature of their business makes fair dealing and the utmost care and accuracy a necessity. A spurious tree is a damaging and lasting reproof which no nurseryman of sound mind would intentionally expose to the view of those he wishes to become his customers.

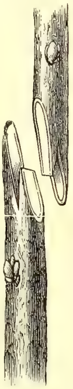
The Tree-Peddler's case is somewhat different. While some, canvassing certain districts from year to year, become familiar with the special conditions of the localities and the varieties best suited for them, are personally acquainted with the residents, and may be as readily relied upon as any other traveling salesmen, there is another class, and a numerous one, who never intend or expect to visit the same places more than once. During this raid they naturally try to catch as many dupes as will allow themselves to become ensnared by their misrepresentations. They have generally no other credentials to present but their unlimited amount of cheek, and yet it is almost incredible how many, otherwise clear-headed persons, become their easy prey. Still, as long as there are people to be found who will send their solid dollars to fictitious firms, expecting to get a fifty-dollar gold watch in return for one or two dollars, fraudulent tree-peddlers will continue their lucrative business.

Nurseries of unquestionable reliability may now be found in every State, and with rare exceptions all the most desirable varieties of fruit-trees and plants may be had there as good and cheap as anywhere. We cannot, for obvious reasons, single out certain firms, but we may state that all those whose advertisements are found in our advertising columns we believe to be perfectly reliable, and that they will do all they promise, and that, if any mistakes in filling orders should occur, they will promptly and cheerfully make satisfactory amends. All will send catalogues free, or at a charge of not more than to cover postage, and some of these pamphlets contain an amount of valuable information little expected by those who have not examined them.

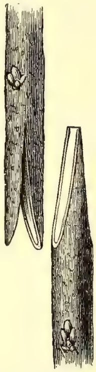
In writing for catalogues or circulars to any of our advertisers, or when sending orders, we shall consider it a favor if our readers will mention that they saw the advertisement in the American Garden.

GRAFTING.

The principal object of grafting fruit-trees is to propagate varieties or sports which do not come true from seed, and also to produce earlier bearing of seedlings or other new kinds. Dwarfing of strong growing kinds is also effected by grafting them on nearly related less vigorous species or varieties, as for instance, the Pear on Quince stock, or the Peach on Plum stock. The nearer stock and graft are allied, the more complete will be their union.



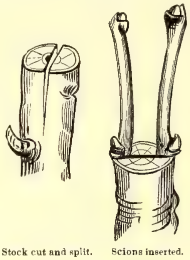
WHIP GRAFTING.



SADDLE GRAFTING.

During the winter months the nurseryman and amateur prepare their Root Grafts for spring setting. The operation is very simple, and, if due care is used, can be performed by any farmer or gardener.

The stocks or seedlings are dug late in the fall and stored in the cellar, packed in sawdust moderately moist. The scions should also be cut before heavy freezing, and stored in like manner in the cellar.



Stock cut and split. Scions inserted.

CLEFT GRAFTING.

Splice Grafting is the simplest form. The root or stock is cut across at an angle near the collar, the scion at a like angle or slope, and the two fitted and bound together.

Whip Grafting (see illustration) is but a modification of splice grafting, and differs only in splitting or tonguing the stock and scion midway on the sloping cut of each, as shown in the engraving, and thus locking them together.

They are afterward wound with waxed thread or cotton yarn, and stored again in the cellar until time for planting in the spring. The inner bark of stock and scion should join at least on one side, as the cell circulation which unites the two is carried on through the inner bark.

Cleft Grafting is preferred when the stock is much larger than the scion, as in renewing the tops of orchard trees. The stock in this case is cut square across, then split, and the scions, which have been shaved down to a wedge shape, are inserted, joining or contiguous to the inner bark of the stock on either side, as shown in the cut. The point of union is then covered with grafting wax, to exclude the air. A good grafting wax is made of equal parts of rosin, beeswax and tallow, melted together and applied warm; if applied cold a larger proportion of tallow must be used, and a little linseed oil to secure pliability.

In *Saddle Grafting* (see cut) the operation of cleft grafting is reversed, the stock being shaved to a wedge shape, and the scion split and pressed over it.

J. Jenkins,
Author of The Art of Propagation.

APPLES FOR EXPORT.

An interesting account of the method of selling Apples in England was given recently before the *Massachusetts Horticultural Society*, by Mr. Charles F. Curtis. He stated that this is done wholly by auction. There are five auctioneers in the business in Liverpool, and all the Apples received are sold by one of them. The sale is held in a large amphitheater, in the centre of which is a large table, on which a barrel of each mark is poured out as a sample. Each auctioneer sells for three-quarters of an hour at a time, and the sales continue, if necessary, till ten o'clock at night. Apples are sold in lots of twenty barrels each. The understanding is that the Apples shall be perfectly tight in the barrel, when such bring twenty-five shillings per barrel; "shakers," or those not tightly packed, will bring four shillings less. The next grade is "wet and wasted," which bring only half the price of the best. The Baldwin is the only variety sold to any amount; it is the only one which can be obtained in sufficient quantity to sell by the thousand barrels. Retail lots and odds and ends are not wanted. Sales are held three days in a week. The trade dates from about ten years ago. When it became apparent that New England could raise Apples enough for its own consumption, the New-York growers began to ship.

In packing, a basket of high-colored and medium-sized specimens are placed in the bottom of the barrel as close as possible, with the stems all down, and the barrel is shaken as often as a basketful is put in. It is filled half an inch above the chimes, the head is pressed in by means of a screw, and the barrel is then turned over and marked on the faced head, so that when opened it shows an even and uniform surface. Apples thus faced will bring from twenty-five to fifty cents more than those not faced. There is very little demand for Sweet Apples. Apples are sometimes shipped successfully in warm weather, when later shipments, in cooler weather, will decay.

Mr. Curtis, in answer to an inquiry, said he did not think that cold storage would keep Apples a month later than ordinary, and a great disadvantage is that they must be used as soon as taken out. Now very few Russets are stored, owing to the improvement in early Southern Apples, which formerly were shaken off and raked up, but now are gathered and packed properly.

THE KIEFFER PEAR.

That this Pear, which is producing such innovation in Pear culture, is a veritable prodigy, no one will perhaps deny. Therefore, in order to do it justice, it seems necessary to look upon it calmly and criticise it philosophically, which, I am disposed to think, has not been done in at least some instances, judging from what I have read. That it is not perfect, all should admit,—no fruit has yet been produced that is,—but that it possesses much merit, from a somewhat full experience with it, I am ready to assert.

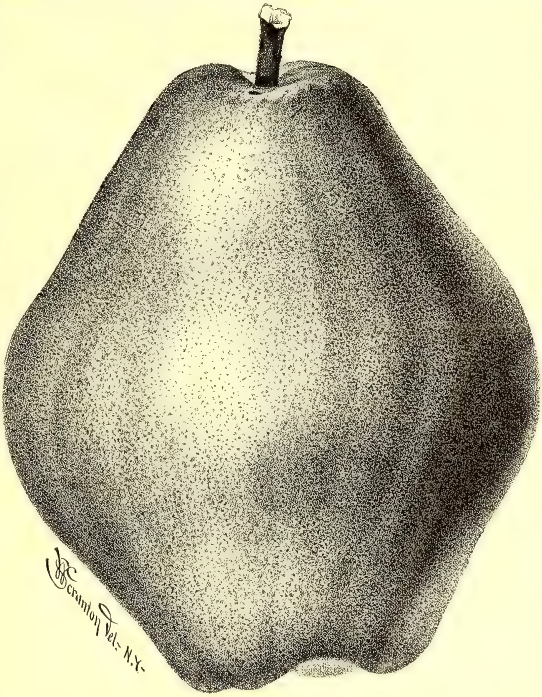
With its large size, peculiar form, and surpassing beauty, together with its remarkable growth, early bearing, and ornamental properties of the tree, it has so fascinated many, apparently (as men are known to have been often fascinated from time immemorable), that they are blind to any defects, while some disappointed ones can see in it nothing to admire. Still others, charmed at "first sight," but chagrined at finding it "not quite so" sweet as appearances led them to suppose, can speak of it only slightingly.

After growing the Kieffer, seeing it in several different places in New Jersey and Pennsylvania, and having tested it three consecutive years, I would describe it in brief as follows:

In size it is large to very large, of double turbinate form, rich yellow, with carmine cheek when exposed to the sun; showy and exceedingly handsome; an excellent shipping and keeping Pear; flesh harsh-grained and of variable flavor; when well grown and well ripened, rich, juicy, peculiarly piquant, and spicy, and when poorly grown or poorly ripened, lacking in character. Season, October to December. Tree, a marvel of rapid growth and early bearing, producing large annual crops, symmetrical, with large, glossy, dark-green foliage in abundance, rendering it decidedly ornamental. Were it of uniform good quality, little indeed beside could be desired in it as an autumn Pear. Although occasionally a specimen of high quality can be found, in the hands of the masses, who would not, it is fair to suppose, treat it properly, it will be found of second or third class quality.

Finally, from its many properties of a high order of merit, and lacking, as it does, only uniform good quality,—like the Concord Grape, Wilson Strawberry, Ben Davis Apple, and other varieties of extensively grown popular market fruits that might be enumerated, all of which are fully as poor in quality as the Kieffer,—I am entirely satisfied it has not only come to stay, but is destined to become equally popular. I should have arrived at this conclusion from its market qualities, luxuriant growth, and productiveness alone; but when I consider its superlative value for canning, surpassing all other varieties of Pears,—so desirable, indeed, for the purpose that the canning establishments alone will take all that can be produced for at least the next ten years, at highly profitable prices,—I cannot perceive how it can prove otherwise.

J. T. Lovett.


Crampton Del. N.Y.

THE KIEFFER PEAR.

FERTILIZERS FOR THE VINEYARD.

Grape-growers who have attempted study and research on this special point are doubtless aware of the extreme barrenness of American Grape literature in this regard. With the constant and rapid increase of our vineyards the importance of this subject becomes more apparent from year to year, in consideration of which Professor G. C. Caldwell, of Cornell University, laid before the Western New York Horticultural Society the results of the recent investigations of several European, chiefly German, experimenters. The four propositions were:

1st. What does the Grape take from the soil.

2d. The composition of a good Grape soil.

3d. The composition of stable-manures, and their ability to supply the requirements of the vine and its fruit.

4th. The use of commercial fertilizers, and their adaptability for this purpose.

Wagner, a German chemist, has made a series of experiments to determine by analysis the elements removed in the annual trimmings, both in the green shoots of summer pruning and the ripe wood of winter pruning, as well as the fruit. He found that these removals were particularly rich in potash and phosphoric acid; hence the conclusion that the vine required a soil especially rich in these elements. Lime seemed to be of but little account.

It was further found that the wood and leaves of sickly or diseased vines were very deficient in these constituents. The proportion of potash is very much larger in vigorous, healthy vines, viz.:

Healthy.		Diseased.	
Leaves,	32 per ct.	Leaves	15 per ct.
Wood	15 do.	Wood	5 do.

The deficiency in the latter was made up by the greater presence of lime; in other words, lime seemed to take the place of the potash.

In a crop of twelve hundred pounds of fruit per acre it appeared that sixty-four pounds of potash and sixteen pounds five ounces phosphoric acid were removed in the fruit and trimmings of the vines, and yet these amounts are much less than those contained in Roots, Clover, or Potatoes.

Stable-manure was highly prized in some wine regions, some vineyardists keeping a herd of cows for the express purpose of obtaining this means of fertilizing their vineyards, while in other sections an excess of these manures was thought to make poor Grapes and wines. Stable-manure had been mixed with muck, and different mixtures of artificial fertilizing substances had been used with opinions differing as to results and effects.

But *Wagner*, in his latest and extensive investigation, could not determine the difference in affecting the quality of the fruit, either by use of phosphoric acid or potash salts. Vines on poor, unmanured land produced as sweet Grapes as those highly fertilized, and he concluded that stable-manure, together with potash salts, and perhaps phosphates, will give the best results.

On concluding, the Professor remarked that, in view of the interest manifested in this matter, he had thought he might be of service in throwing light on this obscure subject in coöperation with others. To this end, if half a dozen or more Grape-growers would conduct some experiments in this line under his direction, he would analyze the soils and direct the application of specific fertilizers, with a view to determine, if possible, the effect of different elements on the fruit. The proposition met with a hearty response, and may we not indulge a hope that some important results will generate from this movement?

E. Williams.

Selection of Varieties.—When one is not well acquainted with the special merits of the different kinds of fruits, it is almost always to the advantage of the purchaser to leave the selection of varieties to some experienced and reliable nurseryman.

The Flower Garden.

MARCH WIND.

A squirrel heard against his door
The noisy March wind tap;
He scanned the whitened woodland o'er,
And chattered: "Dears,
I've many fears,
We'll take another nap."

A tiny spear of grass peeped out
And heard the wind so shrill;
It paused a while, in fear and doubt,
Then seemed to say:
"I'll go away
Till skies are not so chill."

A little bird, all pinched with cold,
Sat muffled in a tree;
It tried to sing, its heart was bold,
And feebly cheeped:
"The snow is heaped;
Sad weather this for me."

A pretty rill crept from the ice,
To tinkle down the hill;
It glanced in sunshine warm and nice,
Then quiet grew.
Ah! well it knew
The frost would linger still.

A Snowdrop looked up at the sky,
With baby face so dear!
It thrived, though sleet and wind went by,
And smiled: "I'll stay,
Please, if I may,
Some weary heart to cheer!"
—*Independent.*

SEASONABLE HINTS.

Plans for the rapidly approaching planting season should now be perfected without delay, and in so doing it is well to bear in mind that the purpose of the flower garden is two-fold—effect or beauty, and use or utility. These two objects cannot easily be accomplished in one and the same spot; it is therefore necessary to make a well defined distinction between these different styles of flower culture.

Show Beds near the house, where they are most conspicuous, should be planted with "bedding plants," attracting attention for the massive, aggregate effect more than their individual beauty. Here the individuality of the single plant becomes subordinate to the common, combined appearance.

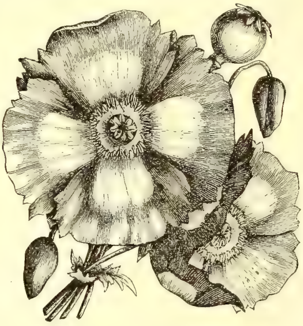
Reserve Beds, for use, should be in every garden, however small. These should be located where soil and exposure are most favorable, and be arranged in rows like the vegetables in the kitchen garden, which latter is generally the best place for them. Here should be rows of Sweet Peas, Mignonette, Violets, Pansies, Gladiolus, Tuberoses, Roses, Geraniums, and other free-blooming plants from which flowers may be cut without stint and restraint. This is also the proper place for the plant hospital, where patients, sickly and enfeebled from winter confinement, may, in fresh soil, pure air and bright sunshine, recover their vigor and beauty.

The Wild Garden is somewhat of a compromise between the two systems. It affords an unlimited variety and quantity of flowers at a minimum expense and labor. A packet of "American Garden Premium" Wild Garden Seeds scattered thinly over a mellow bed of any good, rich garden soil, raked under, watered, and kept free from weeds, will produce more flowers during a season than are found in most gardens.

PAPAVER DANEBROG.

Under this name a new single-flowering Poppy of striking effect is introduced among the novelties of the season. The flowers are of a brilliant scarlet color, bearing on each of the four petals a large silver-white spot, forming thus a white cross on scarlet ground.

The annual Poppies are very hardy, and may be sown outdoors early in spring. As they have strong tap-roots, they are difficult to transplant, and should be sown where wanted to flower. When sown in groups where there is a green background, they produce a striking and most brilliant effect.



PAPAVER DANEBROG.

DEGENERACY IN TUBEROSES.

Something seems to have gone wrong with Tuberoses lately, many complaints being made by purchasers of them that those they purchase for double flowering turn out single. This complaint is not without foundation, and the disappointed amateur, not knowing the causes of the degeneracy of his double flowers, naturally blames the dealer for selling him a spurious article. Double-flowering roots are not a rarity, and are as easily grown as single ones, and to do the grower justice, there does not seem to be any temptation for him to substitute one for the other.

The true cause of the difficulty, I think, will be found in the tendency of the abnormal form to return to its natural condition when the causes that produced it are removed.

For many years I grew Tuberoses in quantity, and do not remember ever having seen at any time a single one among them. The soil in which they grew was a heavy loam over a hard pan of gravelly clay,—not apparently a congenial soil. In preparing the soil for planting, care was taken to pulverize it thoroughly, and to apply old stable manure with no stinted hand. The result was not over-large roots, but strong and healthy ones, always producing double flowers. The manner of keeping the roots through the winter may also have some bearing on the subject. The Tuberose being a tropical plant, its season of growth in our northern climate is but limited until the first frost of autumn blackens its leaves, while they are yet in a growing state, and hardly have arrived at that state of maturity or ripeness most conducive to a robust and vigorous condition for the production of bloom the next year.

After lifting and drying, the plan I pursued for storing them away was simply placing them alongside of the flues that heated the greenhouses. Of course the flue, as such, had nothing to do with the matter only as a medium of heat, which assured to the roots the conditions necessary for a more perfect maturity.

Following the course I have indicated as far as possible, viz.: loamy soil, more inclined to moisture than dryness, heavy manuring, and keeping warm during the season of rest, I have no doubt will prevent the frequent disappointments now experienced of having only single flowers from double-flowering roots.

AN OLD CULTIVATOR.

SOME GOOD GLADIOLUSES.

We are frequently asked to name the best twelve varieties of Gladiolus, to which inquiry we have to answer that it is simply impossible to make a selection of a certain number of varieties that would be satisfactory to every one; there are too many beautiful ones—in fact, none are otherwise. To secure a fine display and diverse varieties of beautiful Gladioluses it is not necessary to purchase high-priced named kinds. The mixtures ordinarily sold by seedsmen and florists contain many beautiful varieties, and by planting a hundred or more "fine mixed" Gladioluses one may be pretty sure of finding among them some of the choicest kinds.

Yet there is a good deal of fascination in a named collection, but those who are making a beginning should commence, and become familiar, with the hardier and cheaper kinds, many of which, although old, are as beautiful as some novelties at a tenfold price.

Of *red* varieties, *Brenchleyensis*, one of the oldest and cheapest, is the hardiest and best for massive effects. Its bright vermilion-scarlet produces a gorgeous appearance among a group of evergreen shrubbery. *Meyerbeer* is brilliant scarlet; *Van Spandonk*, fiery red.

Among *striped* varieties, *Eugene Scribe*, with very large, open, pale rose flowers, striped with carmine, is one of the most desirable; *Milton* is cherry-rose, striped with red, very robust; *Shakespeare* has most perfect spikes, is nearly white, striped, and tipped with delicate carmine-rose.

Addison is nearly *amaranth*. *Zenobia* and *Thomas Methven* are of a beautiful *lilac*.

There are many *salmon* or *buff* colored varieties. *Penelope*, or *Mazeppa*, are as good as any.

La Candeur is the purest *white*; *John Bull* has a slightly yellowish tint; and *Virginalis* is pure white, with a soft and most delicate shading of carmine.

Yellow.—*Isaac Buchanan* is probably the best. *Canari*, or *Citrinus*, would likewise prove satisfactory.

We fear we have already named more than a "baker's dozen," but among so much beauty it is difficult to limit one's choice. By taking any one from each class, no one will be disappointed; but add *Le Poussin*, which is bright red, with white throat, very unique, forming almost a class of its own.

Probably no two growers would agree entirely upon the same selection, and we could name another dozen lists of as many varieties of equal merit. The most important condition to insure continuous blooming is not to plant all at the same time; by planting at intervals of two weeks, flowers will be had all summer.

THE BERMUDA EASTER LILY.

(Lilium Harrisii.)

This is one of the most important and valuable additions that have been made to our list of Lilies since many years. In general appearance, and more especially in the shape of its flowers, this Lily resembles the old, well-known *L. longiflorum*, upon which it is a decided and marked improvement in every way. It is evidently a variety of *Lilium eximium*, grown in the Bermudas for a long time, changing its character so as to become more floriferous.

Having my attention drawn to its great value, I became anxious to see it in its native home, and made a visit to the Bermuda Islands, where I saw it in all its pristine glory, and became still more firmly convinced of its rare excellence. The freedom with which this Lily blooms is remarkable. Lilium longiflorum usually bears from one to two flowers to a stalk, and often comes "blind," or fails to bloom at all; but this Lily flowers when very small, and never fails to bloom. Bulbs the size of a hickory-nut send up vigorous stems, flowering freely; those of medium size producing a correspondingly larger number of flowers; while large bulbs produce about twelve flowers to the stalk, as is shown in the accompanying illustration, which is an accurate and exact representation taken from nature. Last year I had a stem with seventy perfect buds and blossoms; but even this, although it may seem well-nigh incredible, has been exceeded by a plant brought here from Bermuda last spring, which bore one hundred and forty-five blossoms on a single stem, and was noticed in the New-York papers as a "Floral Wonder." These, of course, are exceptions, but serve to show the freedom with which it blooms.

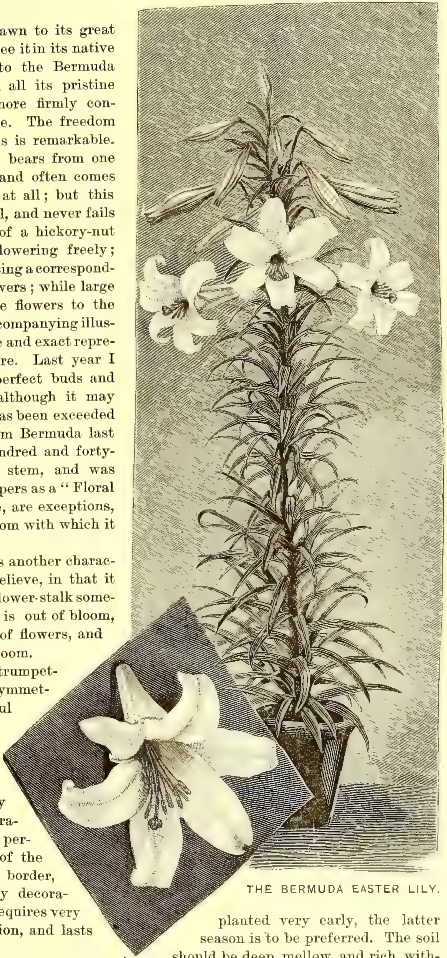
In addition to this, it has another characteristic peculiar to it, I believe, in that it often throws up a second flower-stalk sometimes before the first one is out of bloom, which bears a second crop of flowers, and so prolongs its season of bloom.

The flowers are large, trumpet-shaped, pure waxy white, symmetrically formed, as beautiful and chaste as anything can be imagined, lasting from ten days to two weeks. The ends of the petals are recurved, giving it a very graceful appearance. Its fragrance is delightful. It is perfectly hardy, and is one of the finest plants for the garden border, shrubberies, and cemetery decoration. A bulb once planted requires very little after-care and attention, and lasts for years.

While for outdoor planting it is already recognized as a most desirable acquisition, its paramount importance lies in its value as a winter-blooming plant for market purposes, as well as for conservatory or parlor decoration. Three or four times as many flowers can be grown with the same number of plants and the same expense as from the old varieties — a very important consideration with the commercial florist. An additional superiority consists in its earliness, being more than a month earlier than any other sort now grown. I had some in bloom on January 22d, from bulbs started late, and I am confident that they can easily be forced for the Christmas Holidays.

For forcing purposes the bulbs are planted in pots, at any time during autumn, similar to Hyacinths, kept outdoors until the pots are well filled with roots, when they are removed to a higher temperature. The soil should be kept moderately moist, and receive an occasional application of liquid manure. For outdoor culture the bulbs may be planted in the spring or fall, but unless they can be planted very early, the latter season is to be preferred. The soil should be deep, mellow, and rich, without containing fresh manure, and must be well drained. The bulbs should be planted about four inches deep, and be mulched during winter.

F. R. PIERSON.



THE BERMUDA EASTER LILY.

SINGLE DAHLIAS FROM SEED.

Single Dahlias have proved so decidedly successful last season that the theme of raising them from seed is now, no doubt, of interest to many of our readers. It is by no means difficult to raise Dahlias from seed, but to obtain best results certain conditions have to be observed.

The first consideration should be, says Mr. J. Macdonald, the originator of Paragon, in *The Gardeners' Magazine*, to secure the best strain of seed it is possible to obtain, and then the aid of a warm house or hot-bed to bring on the plants. Very early sowing is not desirable; the first week in March is soon enough. An ordinary seed-pan, fourteen inches in diameter and six inches deep, will raise sufficient plants to start a large garden. As the seed is much larger than the ordinary run of flower seeds, it does not require any special care. A well-drained pan and ordinary potting soil will suit it as well as the most elaborate preparation; but a moderate degree of heat the seed must have, or the plants will be so small when the time comes for planting them out, that they will be but little good the first year. If the seed-pan is placed in a temperature of sixty degrees it will do well, and the seed will vegetate in a few days. As soon as the plants are an inch in height they must have both light and air, or they will get drawn and weakly.

When they have formed their second seed-leaf they should be potted singly in three-inch pots, but they must still have artificial warmth if they are to be kept growing. At the end of April they ought to be large enough to be shifted into five-inch pots, and then they may have greenhouse treatment for another month. At the end of that time they may be placed in a cold pit or frame, and be gradually hardened off. Ten days will be long enough for the hardening process, if the sashes are taken off by day and put on again during cold nights.

The requirements of single Dahlias are the same as those of the double kinds. To maintain a constant succession of flowers they must have a rich, deep soil to grow in, and in dry weather plenty of water. These single varieties do not look well when grown as tall plants, as we grow the show flowers; the center of the plants should therefore be pinched off before they are planted out. This is all the stopping they require in order to produce compact, bushy plants.

A FLOATING GARDEN.

As an illustration of inborn love of flowers, Josiah Hoopes mentions in the *New-York Tribune* a floating garden, stationed in the middle of a broad river, where the keeper of a "draw" on the bridge had improvised an old scow and fitted it up quite tastefully—with common flowers, it is true, but still in a manner displaying judgment as well as perseverance under difficulties. Here, while attending to his daily routine of duty, he was literally in the midst of fragrance and beauty, although on every side surrounded by water. The simple arrangement of the beds was alone suggestive of a cultivated taste; the tall pyramids of Cypress-vine in full bloom surrounded by beds of Geraniums, Coleus, etc., placed in perfect harmony as to fitness and contrast in color, caused them to be especially noticeable, even had they been growing in the garden of a rural home; indeed, they put to shame the surroundings of many pretentious cottages, whose owners think they have arrived at the highest limits of modern gardening.

Lawn and Landscape.

A DOZEN GOOD SHRUBS.

The proper selection of ornamental shrubs, with due regard to their suitability and adaptation to soil and climate, as well as season of inflorescence, is to every owner of a country place, however small it may be, a matter of the first importance. The variety and wealth of floral beauty derived from a succession of flowering shrubs, when once established, cannot be gained as easily from any other source. With a little attention to the blooming period of those chosen, a continual display may be had from early spring until frost brings vegetation to a standstill.

The following species are all hardy and tried kinds, which do well in nearly all localities, and are arranged in the order of their flowering:

Pyrus Japonica, the well-known Japan Quince, is one of the very earliest flowering shrubs, and produces a great quantity of bright scarlet flowers from an inch to an inch and a half in diameter, not fragrant, but of exceedingly brilliant color. The bush is not naturally a graceful grower, but a little judicious pruning will easily overcome this defect. There are also a pink and a white variety.

Forsythia viridissima, Golden Bell, has few equals, blooming in very early spring before its leaves appear, and while there is yet a dearth of flowers. Its leaves and bark are deep green, flowers deep yellow. *F. Fortuneii* is a newer species, of more compact growth.

Prunus triloba, the double-flowering Plum, and *Prunus Japonica*, the dwarf double-flowering Almond, are not excelled in graceful beauty. They are white and rose-colored, and produce a fine effect when planted together. The flowers are very double, extremely delicate and beautiful, and borne in such profusion as to cover the bushes completely. For small places nothing is more appropriate.

Spiræa prunifolia flore pleno grows from five to seven feet high, and produces a mass of double pure white flowers, which appear in bunches of threes and sixes, covering the whole length of the ash-colored branches. It blooms in May, and continues in flower longer than most shrubs.

Syringa vulgaris.—This is the most common of the Lilacs, and also one of the best. The flowers are produced in early spring, in compact, pyramidal panicles of purple or white color, and of most delicious fragrance. There are numerous other varieties, ranging in color from pure white to deep purple; most of them are perfectly hardy, and all are extremely ornamental. They are readily propagated from the numerous suckers which they send forth, it being only necessary to separate the shoots from the old bush.

Weigela rosea, though properly belonging to the genus *Diervilla*, is so generally known under its old name that popularly it will probably always be called by it. This is, without exception, the showiest of our common shrubs, and, if confined to a single plant, no better choice could be made. In rich soil it produces long, erect or drooping shoots, which in June are completely wreathed with a mass of rosy-white flowers, varying considerably in the intensity of shades. There are several other desirable kinds of this genus. *W. candida* is pure white.

Viburnum plicatum, the Japan Snowball, is one of the most desirable flowering shrubs. It is of moderate, upright growth, more compact, and more graceful than the common Snowball; the flowers are larger, purer white, and more compactly set. The foliage and entire habit of the shrub is handsome and pleasing.

Philadelphus grandiflorus, Syringa.—This beautiful shrub is indigenous to the United States, from Virginia southward, and makes a bush six feet and more high; the flowers, which are pure white and fragrant, are produced in great profusion in June. There are several more fragrant varieties, but none are as showy. It is a strong grower, and will form a large-sized shrub unless kept within suitable size by occasional pruning.

Deutzia crenata, especially the double variety, is rapidly growing in popular favor, and ought to find a place in every garden. The plant forms a bush three to six feet high, producing an abundance of white flowers, tinged with pink, in long, drooping racemes. The dwarf single variety, on account of its size and free flowering habit, is very desirable. It has bright green foliage, and produces masses of pure white flowers in early June.

Hibiscus Syriacus. Althæa, or Rose of Sharon. These old and well-known shrubs are of the easiest culture, and, blooming in August and September, when there is a scarcity of flowers in the shrubbery, fill a place not occupied by any other kind.

Hydrangea paniculata and *H. p. grandiflora* are invaluable as late bloomers. The flowers, which are white when they first appear in August, gradually turn pink as the season advances, and at frost become a brownish red. The large, dense panicles of flowers are exceedingly effective, especially when a group of these shrubs is placed in a lawn to be seen from a short distance. The plant requires considerable moisture, and can be readily propagated from cuttings.

Symphoricarpus racemosus, the Snowberry, is to be recommended on account of its large, glossy, white, wax-like berries, which remain on the bush during the greater part of winter.

The dozen is full, and still there are many beautiful shrubs we would not willingly dispense with in the lawn or shrubbery, but those named will give as varied and complete a succession of flowers as can be selected, are all of the easiest culture, and have the additional advantage of cheapness, small specimens costing probably not much more than ordinary bedding plants. IKE IVY.

BARE SPOTS IN LAWNS.

Nothing mars the appearance of a lawn more than bare spots on which the grass has died out. The cause of this is generally standing water, for which there is no surer remedy than draining. But frequently these spots are lower than the surrounding ground, in which case a quicker and cheaper cure may be effected by carting on good, light soil, leveling and seeding in early spring. Manuring wet spots is of no avail; but when the grass fails on dry ground, an application of four hundred pounds of superphosphate of lime to the acre will make a wonderful change.

The Window Garden
AND GREENHOUSE.

ROSES IN THE HOUSE.

There are probably no plants which disappoint the amateur more sorely than Roses, and especially when, allured by the promising name of "Hybrid Perpetuals," he tries his hand at this class with the expectation of having flowering Roses the year round. This "perpetual" name is a perpetual fraud. There is no perpetual flowering about them: they bloom in the "month of Roses" as other Roses do, and that ends their blossoming for that year, unless under special care and culture they may produce a few solitary flowers in the fall.

The only varieties suitable for ordinary house culture are the "China" or "Monthly Roses," and even with these the great difficulty is that the usual temperature of living-rooms is too high, and the atmosphere too dry for them. It is true that Roses yield readily to forcing, but only after having received proper previous preparation. Roses which have been growing in the open ground during summer cannot be successfully grown in a warm room all winter. They should be taken up in the fall, cut back severely, planted in rather small pots, in rich, not too fine, potting soil, and kept in a cold frame until the pots are well filled with roots. They may then be brought gradually into a warmer temperature and to full light, and receive water more freely. But plants grown in pots during summer, in full sunlight, kept rather dry, and properly pruned, are in every way preferable for house culture, and will, with attention to their wants, repay liberally for all the care bestowed upon them. Roses will do better in smaller pots, in proportion to their size, than almost any other plant.

One of the most essential conditions to the good health of Roses is cleanliness, they should therefore be washed and syringed frequently; plenty of light and sun is not less important. Water should never stand around their roots, nor should the soil be allowed to become entirely dry; frequent stirring of the surface of the soil is also beneficial. All fading flowers should be removed at once, and straggling branches cut back; no plant bears pruning better and is more benefited by it than the Rose. Sudden changes of temperature and cold draughts are injurious; therefore, when airing the room, the plants should be covered with a blanket, or be removed to another apartment. A sharp and constant lookout has to be kept for insect pests, and, as soon as any make their appearance, the plants should be fumigated and washed or syringed with weak Tobacco water. Toward spring they should be hardened off gradually, by giving them free ventilation on all mild days.

To sum up the foremost conditions of what constitutes success in Rose culture, we cannot do better than quote *S. Reynolds Hole's* incomparable words: "He who would have beautiful Roses in his garden must have beautiful Roses *in his heart*. He must love them well and always. He must have not only the glowing admiration, the enthusiasm and the passion, but the tenderness, the thoughtfulness, the reverence, the watchfulness of love."

CYCLAMEN CULTURE.

The Cyclamen is one of the best plants we have, both for greenhouse and parlor culture, combining neat habit, elegant foliage, and beautiful flower. The roots, which are round, flatish tubers, may be had in the autumn at the seed-stores, or of florists at any season; but, as the plant is winter-blooming, and rests during the summer, autumn is the season for planting. The proper soil is a mixture of equal parts of turfy loam-peat, leaf-mold, and silver sand; but where these cannot be had, the tubers may be potted in any rich, light soil. Only one tuber should be placed in a pot, which should always be three times the diameter of the root. It should be well drained, filled with the compost, so that the crown of the tuber when planted will be level with the rim of the pot, leaving about half an inch all around for watering.

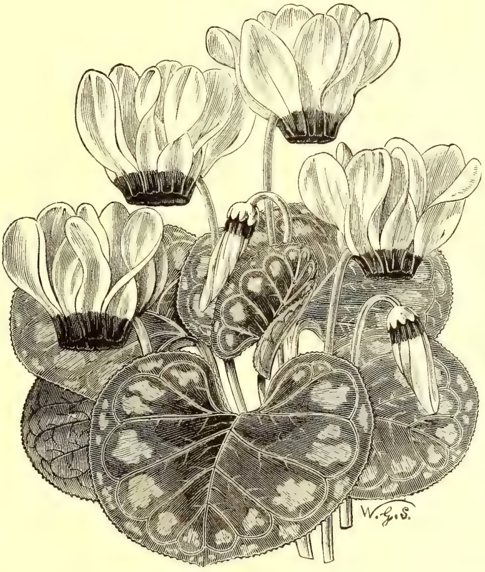
The pots may be kept in a frame, shading them from the sun, or in a cellar, until growth begins, giving only enough water to keep the soil moist. Then give more water and plenty of light and air, covering them at night in the frame to protect from cold, or removing them to the parlor window or the greenhouse. Give all the light possible, that the leaves may not become drawn; if in the greenhouse, place them near the glass, but do not give heat. A temperature of fifty degrees is sufficient until they begin to bloom. The secret of successful culture is air, light, and a low temperature. After the flowers fade, gradually withhold water and allow the tuber to dry, but never to shrivel. The roots may remain in the pots, placed in a cool, airy situation, until the time for replanting. A good plan is to bury the tuber in the pot, in the open ground, and thus the root, when uncovered in the autumn, is fresh and plump.

Cyclamens are best propagated by seed, and it is wonderful what a variety of beautiful flowers may be obtained from a packet of choice seed; and, by keeping the bulbs in active growth, flowers may be produced within one year. The seed should be sown as soon as ripe, not later than March, in a soil composed of well-rotted manure, leaf-mold, and coarse sand, covered about an eighth of an inch, placed in gentle heat, and never be allowed to become too dry, nor be kept constantly soaked. As soon as the young plants make their appearance, which will be in about four weeks, they should be placed near the light. After they have made two leaves, they have to be pricked out into small pots, taking care not to tear off the fine roots, and to leave about one-third of the bulb above the surface of the soil. As the pots become filled with roots, the bulbs should be transplanted from time to time; plants that have been kept in thrifty, growing condition requiring, about the beginning of November, five-inch pots. An even temperature of fifty to sixty degrees, and full light, are now necessary; and, with care and an occasional application of liquid manure, many flowers will develop during winter.

There is a class of autumn-blooming species which must be planted in August, of which *C. Europœum* and *Neapolitanum* are examples. The flowers are red-rose or pure white, and fragrant in the former; the latter is scentless, and blooms before the leaves appear. *C. Coum* is a very pretty species, with bright, green leaves, red on the under side; the flowers are bright red, produced external to the leaves, to which they form a margin. It blooms in February or earlier. *C. repandum* much resembles *C. Neapolitanum*, but blooms in April, later than any other species; the flowers are bright rose.

C. vernum resembles *C. Coum*, but is larger in every way; the leaves have white marbling, and the flowers a purple shade. It blooms from November to March.

C. Atkinsi is a hybrid between *Coum* and *Persicum*. The foliage is very large, of deep, glossy green, with a pale zone within the margin; the under side reddish purple. The flowers are scentless, white, with crimson eye, but there are all shades of white and red.



CYCLAMEN PERSICUM.

The most beautiful of all the family is *C. Persicum* and its many varieties. The leaves are variously heart-shaped, toothed at the edge, deep green, with gray or white marbling and pale flesh color beneath. The flowers are on tall stalks, with very long petals, white, blotched with crimson at the base in the species, but of every shade, from pure white to deep rosy crimson, in the varieties; all are very fragrant. A large tuber will often produce a hundred flowers if well grown. This is one of the most beautiful plants for parlor culture; any one can grow it, and by arranging a succession, the parlor window can be bright with Cyclamens from January until April. All the species are more or less acrid, yet it is said that in Sicily they constitute the principal food of wild swine; hence their popular name, *sow-bread.*

R. S. E.

CONSTRUCTION OF CONSERVATORIES.

A suburban or rural mansion can hardly be considered complete without a well-arranged conservatory. Conservatories differ materially from greenhouses, and their construction offers frequently considerable difficulty to the architect who has not given special attention to the subject. At the outset several points must be kept in view, which Mr. F. A. Fawkes, author of "Horticultural Buildings," in a recent address before the British Architectural Association, sums up as follows:

1. A conservatory must be treated as one of the reception-rooms of the dwelling-house.

2. Without departing from its strictly horticultural character, we must endeavor to make it approximate architecturally, both inside and out, to the other portions of the dwelling-house.

3. This being so, we must regard the functions of growing and showing as quite separate. I am perfectly aware that many cases exist in which it is necessary that growing and showing be accomplished in the same house. In such cases a compromise must be effected, for if all the conditions of growing be complied with, the conditions of showing will suffer, and *vice versâ.*

Summing up the chief points to be observed in designing a conservatory, I would say: Construct it in harmony with the adjoining or surrounding architecture. Give as much light as you can. Ornament the construction; never construct the ornament. Interest and pleasure should be excited by the broad lines of a conservatory rather than by meretricious ornament and fussy detail.

Touching the interior I would say: Throw away stages, hide the pots, and let us see natural beds and banks of foliage and flowers massed with artistic irregularity. Let there be an ample paved space — not a mere path, but a space so that a table and chair or two may be placed in it. Let the conservatory be regarded more as a lounge than a mere place to walk round in single file.

SUCCESS WITH MIGNONETTE.

Having failed two years in succession to grow Mignonette in the house, and having succeeded perfectly this winter, my plan, which requires no extra pots, may be of help to others. In October, when I take in my Geraniums for winter, I scatter some seed of Mignonette over the top of the earth, and cover with a little fine Sphagnum, or other moss, to keep the earth moist. Pots which receive the full hot sun will not grow Mignonette, but those which are in shade a part of the day will give as rank growth of leaves and flowers as one could ask. Sweet Alyssum and Candytuft do equally well treated in this way, only to grow well they require the lightest places in the window, and should be exposed to as much sunlight as possible.

L. R. C.

Foreign Gardening.

TROPICAL FRUITS.

ORANGES.

Orange culture, which is now attracting much attention in the United States, calls for but little care in Brazil. The seed is planted, comes up in a few days, and in five years the trees begin to bear. Of course, these seedlings vary greatly in size and quality of the fruit, but we know of no attempt to raise seedlings of superior quality so as to perpetuate the best varieties. Oranges of the common sweet variety are plenty, and sell often two or three for a cent. The best are as good as Florida Oranges. The fault we find with Brazilian Oranges is that they are too sweet; there is not enough acid to make them palatable. The best variety is called *Laranja celeste.* It is very large, skin rusty yellow, pulp deep yellow, melting, with a rich, spicy taste.

Of species we have the Tangerine, which, though never very large, is delicious; the *Laranja da Cameta*, which is almost identical with the Mandarin; and two varieties of the bitter Orange, one of which has a sweet, tasteless pulp. These have thick skins, and are used only to make sweetmeats or drinks; they are called *Laranja da terra.*

The large sweet Lime, called *Laranja de Persia*, is common; the skin is yellowish-white, the pulp almost white; the juice has no flavor, but is refreshing. Far different is the sweet Lemon, which is better than any Orange. In appearance it resembles a Lemon, but the juice is sweet. It is not common, and the sour Lemon is not cultivated at all; the only trees we have ever seen are grown by the American colonists at Santarem, far up the Amazon, and the fruit is regarded as a curiosity. In place of the Lemon the Lime is grown in great quantities, supplying in Brazilian cookery, in a great measure, the place of vinegar. Both the Orange and the Lime are in season all the year in Para, the trees often being full of ripe fruit and flowers at the same time.

The Navel Orange of Bahia, which is reputed to be the best in the world, is grown in private gardens, but is never seen in the market. It derives its name from a protuberance at the apex of the fruit, which, when large, covers a portion of pulp; it has no seeds, and can only be propagated by budding.

A little care might produce very fine Oranges in Para, but everything in horticulture in Brazil is shiftless, and the common trees bear so abundantly, neglected and eaten up by parasitical plants as they are, and the fruit is so cheap, that, unless a foreign demand can be created, we can see no future for Orange culture in Brazil.

BANANAS.

Next to Oranges, the Banana (*Musa sapientum*) is the most common fruit. The trees bear in nine months from the sucker; the stalk which bears the fruit dies, but many suckers come up; so that in this climate, if Bananas are once planted, the work is done forever. There are many varieties: the common red and yellow, which are so well known in the markets of the United States, and many other yellow-fruited kinds, of which the best large is the "Santa Mai," and the best small the "Inaja." Banana *branca* has the skin light yellow, at times almost white; the flesh is white, melting, and tastes like a Pineapple.

Banana *Anão*, or Dwarf, is a rare and peculiar species. The plant seldom exceeds five feet in height, but has broad, spreading leaves; the bunch of fruit is very large, and so long that it is necessary to dig a hole in the ground at the root of the plant to allow its full development. The fruit when ripe is bright green, yellow inside, and very rich; it is the best Banana we have met.

Allied to the Banana is the Plantain (*Musa paradisiaca*), which forms a chief article of food among the lower classes, being eaten raw or cooked. It has a rank taste, raw, even when dead ripe, but is most palatable either roasted, boiled, or fried. In Eastern Peru the unripe Plantain, roasted in the ashes, supplies the place of bread. It tastes like roasted Chestnuts, and we once were compelled, in a lack of all other food, to live for a week on it, and we might have had far worse food.

On the Amazon the Plantain is called *Pacova;* the fruit of the hybrid between the Plantain and Banana is *Banana Pacové*, and all others are Bananas, with distinguishing names to show the varieties. The amount of Bananas or Plantains which may be grown upon an acre of ground is wonderful; we think it was Humboldt who calculated the product compared to that of Potatoes as forty-four to one, and to that of Wheat as one hundred and thirty-three to one. They are very nutritious, wholesome, and cheap. In Para a large bunch costs from thirty to fifty cents, but up the Amazon we have often bought a bunch heavier than we cared to lift, for five cents.

THE PINEAPPLE

is also grown in great quantities, but is not considered a very wholesome fruit. Some of the varieties attain a great size, but these large fruits are usually lacking in flavor. We have eaten as good Pineapples in New York as we ever have in Brazil, the fruit here being always cut before it is ripe, and ripened in the house. Pineapples are also at times as cheap in New York as in Para, the latter city only having the advantage that any day in the year they can be had for from ten to twenty cents each. The culture requires no special care,—a light, sandy soil, which will grow nothing else, giving a good crop of Pineapples. No attention has as yet been given to raising improved varieties, and much might be attempted and gained in this direction.

GUAVAS.

There are many different kinds of Guavas, both species and varieties, but they are not held in much estimation. The common people eat them raw, but they do not commend themselves to the European palate except in the form of jelly or marmalade. The Araca, a species with bright yellow, acid fruit, which makes a delicious jelly, is a very handsome tree, and the flowers, which are large, resemble single white Roses full of stamens, but, like most of the flowers in this climate, they last but a day; the tree, however, is almost always full of fruit or flowers.

E. S. RAND, JR.

FOREIGN EXPERIMENTAL STATIONS.

In Europe the lessons in regard to climatic adaptation of fruits and economic plants of all kinds were learned in the long ago, and people only plant such products as are recommended for their respective sections by the skilled managers of the many trial stations liberally supported by each government. Nor is this systematic work confined to the several mother countries. No sooner does England, France, Germany, or Russia acquire new territory in some distant and perhaps sparsely settled region, than the preliminary steps are taken to establish experimental stations with a view to introducing the products of all countries likely to thrive in the given climate and soil.

England found Australia, India and New Zealand destitute of hundreds of products for which their soil and climate seemed well adapted. In a brief time numerous experimental stations, under the management of experts trained at the home stations, had introduced such a variety of valuable products, not native to the countries, as to many times quadruple their commerce and to materially modify the habits and customs of the people.

Quite recently France has occupied portions of Egypt, yet experts from the French botanical gardens are already on the ground supplying the defects always associated with a new section or a low state of civilization. Even Russia has experimental stations and forestry plantations in every province, supported in princely fashion, and she does not fail to establish such stations as soon as practicable in all newly acquired territory. In all parts of Europe, indeed, the leading thought has long obtained that constant benefit can be realized from the exchange of the economic plants of the nearly similar portions of the earth.

In addition to the experimental work done at the schools of agriculture, schools of horticulture and schools of forestry, we find near every large city of Europe an extensive botanical garden, where are kept, distinctly labeled, trees, shrubs, and plants of the world adapted to the particular climate.

That all this will be duplicated in our country as we gain age and experience, I do not doubt.—*From Prof. J. L. Budd's report to the Trustees of the Iowa Agricultural College.*

CACTUS AS A TROUBLESOME WEED.

Some species of Cactus, imported into Australia, seem to find themselves so much at home there, and are spreading to so alarming an extent as to seriously interfere with land culture, and to necessitate government aid. A leading Australian paper says:

"A bill has been introduced into the New South Wales Legislative Assembly for the purpose of empowering the Government to devote a certain sum to the eradication of the wild Cactus plant, popularly known as the 'Prickly Pear.' So rapid has been the spread of this vegetable pest that, whereas, according to the statement of one member, fifty pounds would have sufficed thirty years ago to rid the colony of it, a million sterling will, before many years, be required for such a purpose. It was stated that one proprietor in the colony had spent one thousand pounds on his land in trying to destroy this mischievously prolific plant, but had not yet succeeded." That's worse than "Pusley!"

Miscellaneous.

WHEAT GROWING.

In the December number of THE GARDEN I stated that my method of growing Wheat "begins with the seed and ends with the seed."

Experience and experiments prove conclusively that the seed is by far the most important factor in field, garden, and lawn. I am asked "how I make so small a quantity go over an acre?"

The results of one or two experiments will show the value of good seed, and the reason why sound and genuine seed goes so far.

In 1875 I planted 7½ pounds of nice hand-picked Wheat, on an exact square acre, in rows 18 inches apart. I cultivated it three times, and at harvest threshed out 67 bushels, 17 pounds,—538 fold. In 1880 I planted, on 40 square rods, 32 ounces of very fine selected Wheat, cultivated and irrigated it twice. The product was 18 bushels, 6 pounds,—543 fold, or nearly 72½ bushels per acre.

The same year, on 76 square feet, I planted 76 kernels of extra fine seed, weighing 45 grains, Troy. This was cultivated and fertilized very carefully. The product realized exactly 10¼ pounds,—almost 1600 fold, and nearly at the rate of 100 bushels per acre.

These experiments, I repeat, as well as many more on record, show conclusively the value of good seed; and the importance of keeping it pure and improved by crossing and careful selection. One of the most natural habits of Wheat, Oats, Rye, etc., is the process of tillering — not suckering. It consists of a growth of new stems from the first or parent stalk. In the first stages of its growth the parent stem has a ring around it just below the surface of the soil. From this ring new stems or tillers rise, surrounding the parent stalk as the braces of an umbrella do the handle.

Every new tiller has its ring also and stems. I have known as many as 181 tillers come from a single kernel of wheat, all of which bore good heads, averaging 42 grains, or 7602 from one planted.

Thin sowing and cultivation of Wheat very much encourage this habit. Winter Wheat, in particular, when the conditions of the soil are favorable, thrives much better and yields much more abundantly when sown thin.

Thin seeding will always and invariably produce a greater yield and of better quality when the seed is pure and the conditions of the soil are favorable.

It is within the reach and power of every farmer to make his seed *pure* and the conditions *favorable*. Herein lies the secret of making large crops from thin seeding.

The encouragement of the tillering process and of cultivation necessarily give new vigor to the plant; consequently, the maturity of the grain is retarded, and at the same time, I think, it is made better.

There is danger, however, of rust when a crop of Wheat is forced or permitted to grow beyond the time it should mature.

When thickly sown it makes but few if any tillers, and its tendency is to ripen earlier, with shorter straw, shorter heads, and fewer kernels.

"The greatest enemy to Wheat is Wheat." Wheat cannot bear to be crowded. It fails to carry out its natural habits; as well does it fail to develop fully in straw and grain.

In making the conditions of the soil favorable, the farmer must thoroughly understand the nature of his soil, and what his Wheat wants and what it doesn't want,—its likes and dislikes, to put it in plain language. For instance: It likes a high, dry, clay soil, not too finely pulverized,—one that will pack well, and with but a little alluvial matter in it. It dislikes shade, damp low lands, and too much manure. The selection of the seed has much to do with the yield. Poor seed makes poor yields and poor crops generally. The grain taken from the parent stalk above-mentioned will be found to be the best in all respects. The top ear on a stalk of Corn is the best for seed. The center stalk of a Cabbage, Beet, and Radish panicle bears the best seed.

PROFESSOR A. E. BLOUNT,
Colorado Agricultural College.

NEW-YORK AGRICULTURAL EXPERIMENT STATION.

Experiments made during last summer showed such a manifest superiority of yield in favor of tip kernels of Flint Corn planted as, if true upon trial, to afford an easy and ready means of increasing our Corn yield. In view of the importance of the subject the director, Dr. E. L. Sturtevant, requests that numerous trials be made by farmers generally, and the results reported in accordance with the following directions:

Select a number of perfect-tipped ears of a Flint variety of Corn; from these ears shell by hand the five butt kernels, the five central kernels, and the five tip kernels, kept carefully separated, for use as seed.

Using these three kinds of seed, plant one hundred hills of each, six kernels in a hill, and after the plants have appeared, reduce the number to four to a hill; these four to be allowed to grow for the purpose of crop. While thinning keep careful record of the plants removed from each lot, and count the number that vegetated from the six hundred planted.

Cultivate each series alike, and harvest at the same time. At husking, carefully note on the spot:

1st. The number of ears of merchantable and unmerchantable corn borne by each series.

2d. The weight of ear corn, merchantable and unmerchantable, harvested from each series.

3d. It would be useful and desirable to measure the length of ears grown from each kind of seed, in order to see what influence the several kinds of seed have upon the length of ear produced.

4th. It is also desirable that notes should be taken of the date of planting, the date at which the plants appear above the ground, the date of blooming, and also the date of ripening.

5th. Please transmit a copy of the results obtained, whether favorable or unfavorable to the tips, to the director of the station.

Care must be taken, however, to secure good seed from the tips in order that the comparisons may become just. It can hardly be expected that poor seed of one selection should produce equivalent results to good seed of another selection. It is recommended also that all parties who should give aid by making this experiment should plant at the same depth, say one inch; should plant at the same intervals, say the hills three and one-half feet apart; and should give the ordinary cultivation and manuring of their locality. For further information, address Dr. E. Lewis Sturtevant, Geneva, N. Y.

Horticultural Societies.

NEW-YORK HORTICULTURAL SOCIETY.

The Society held its opening monthly exhibition in its new hall on 28th street, near Broadway, on Tuesday, February 6th, and made a very creditable exhibit considering the inclement season of the year, which naturally prevented would-be exhibitors who live at considerable distances from the city from sending specimen plants.

Notwithstanding the cold weather, the successors of the late Mr. Haggerty, of Poughkeepsie, sent safely two fine specimens of Bougainvillea splendens in full bloom. These plants were trained up by judicious pruning to single stems about three feet high, with fine spreading heads, which were a mass of bloom. An exhibit of forced Persian Lilacs, grafted on Privet stocks, grown by Mr. John Henderson, of Flushing, N. Y., elicited general admiration for their abundance of bloom and exceedingly dwarf habit for such free-growing shrubs. An exhibit of forced Rhododendrons was also much admired for the fine heads of flowers and generally healthy appearance of the plants. They wanted another week or so to fully develop their trusses, beautiful as they were. A collection of remarkably well-grown Chinese Primroses attracted considerable attention. The show of Orchids was rather limited,—the most conspicuous being a fine healthy plant of the remarkable Angræcum sesquipedale, having six perfect flowers of large size on it. Among others were Dendrobium Wardianum, Lælia anceps, Phalænopsis amabilis, P. Schilleriana, and various Cypripediums. In front of the dais at the upper end of the hall were some noble specimens of Cypripedium insigne, together with some nicely grown Crotons, Dracænas, and other plants.

Among cut flowers there was a fair show of Roses and a beautiful collection of Carnations, exhibited by Hallock & Thorpe, Queens, L. I. The quantity on the tables was not large, but those shown were fine specimens of popular varieties. Noticeable were a few spikes of Hyacinth "Iris," a single dark blue, with a conspicuous white eye. The spikes were large and fine, and mark this variety as one well fitted for forcing.

The numerous attendance was very gratifying to the officers and members of the Society, and encouraging to exhibitors to renew their efforts to make their future monthly meetings equally successful.

AMERICAN POMOLOGICAL SOCIETY.

President Marshall P. Wilder announces that the next biennial session of the Society will be held at Philadelphia, September 12, 13 and 14. A grand meeting is expected, and it behooves every one interested in fruit culture to do all in his power to make it an eminent success.

BOOKS AND PAMPHLETS RECEIVED.

Neltnor's Fruit and Flower Grower, a quarterly journal, devoted to the interests of nurserymen, seedsmen, florists, orchardists, gardeners, and planters. Published at Turner Junction, Ill.

Agricultural Review and Journal of the American Agricultural Association. This journal appears now as a monthly, in the same form and style as formerly. The first number contains several interesting articles.

Portage County Horticultural Society.—*Ravenna, Ohio.*—Mr. H. Y. Beebe, Pres., Mr. Andrew Willson, Sec. Report of 1882. The meetings of this flourishing society are always full of interest; they are held at the residences of the various members, and seem to be highly enjoyable as well as interesting gatherings. The pamphlet contains some valuable papers by our esteemed contributors, Mr. L. B. Pierce and Mr. Mansfield Milton, and others.

Ohio State University, Twelfth Annual Report of the Board of Trustees.—Important and valuable progress has been made since the establishment of the Department of Botany and Horticulture under the able directorship of Professor W. R. Lazenby; and now that the State Agricultural Experiment Station has been located at Columbus, and practically combined with the University, highly beneficial results will no doubt be achieved in the near future.

Fruit Culture in Colorado, *by Wm. E. Pabor, Denver, Col.*—In this pamphlet the author has brought together into compact shape and easy form the varied experiences of Colorado pomologists. All the leading tree and berry fruits are treated in succession, describing the best modes of culture and the varieties which so far have been found of most value in the State. To any one intending to engage in fruit-growing in Colorado the work is indispensable.

The Young Scientist, a practical journal of Home Arts, published monthly by the Industrial Publication Company, 49 Maiden Lane, New York, at $1.00 a year. This excellent journal has been considerably enlarged and improved lately. Its pages are well filled with useful and valuable as well as enjoyable information, of interest to every intelligent youth. Any boy who will become interested in the reading of such a journal will not long for the "Nickel Library" literature.

Address of the Hon. Marshall P. Wilder, on the occasion of his sixteenth election as President of the New England Historic Genealogical Society. It is a rare and genuine pleasure to read this address of our honored and beloved friend, so full of vigor, youthful energy, and progressive spirit that one can hardly realize his venerable age. And when, at the close, he says: "When I review the past history of our nation, and look forward to its future greatness and glory,—still to flow on with no backward tide,—when I reflect on the marvelous progress which we have witnessed in our own times, my soul yearns for a longer life, for a reduplication of my years, that I might witness the untold grandeur and power that it will achieve in the future!" we cannot but express the sincere hope and earnest wish, joined in by the countless numbers of his admirers and friends, that his life may be spared long enough to see a large share of his prophesies fulfilled, and that he may live to participate in the glorious celebration of the anniversary of his one hundredth birthday.

CATALOGUES RECEIVED.

The Oakland and St. Clair Mineral Spring.—A handsomely illustrated circular, describing the advantages of this attractive health resort on the St. Clair River, Michigan.

H. S. Anderson, *Cayuga Lake Nurseries, Union Springs, N. Y.*—Descriptive Catalogue and Price List. A full assortment of reliable Small Fruits, Fruit and Ornamental Trees and Shrubs. Duchess Grape a specialty.

A. M. Purdy, *Palmyra, N. Y.*—Descriptive Catalogue of Small Fruits, Fruit and Ornamental Trees; Ornamental Shrubs, etc.; Crimson Beauty Raspberry, Big Bob Strawberry, Stayman's Blackberry, and several new Grapes receive special prominence.

John G. Burrow, *Fishkill, Dutchess County, N. Y.*—Illustrated Catalogue and Price List of Grape Vines, etc., with a large colored plate of the Jefferson Grape, the original stock of which is owned by this nursery. A full assortment of the newer Grapes is also offered.

George S. Josslyn, *Fredonia, N. Y.*—Descriptive Price List of American Grape Vines, Small Fruit, Plants, etc.; a very complete list of hardy Grapes, etc. The justly celebrated Fay's Prolific Red Currant, a large colored plate of which accompanies the pamphlet, has its head-quarters here.

Hale Brothers, *South Glastonbury, Conn.*—Catalogue of Small-Fruit Plants. Manchester Strawberry, Souhegan Raspberry, Pratt Peach, specialties. This firm makes the commendable "new departure" of offering for sale only such of the old varieties as have proved of value all over the country, and only such of the new ones as promise to be of great merit.

Nash & Bro., *Millington, Morris County, N. J.*—The "Acme" Pulverizing Harrow, Clod-Crusher and Leveler. A pamphlet of nearly two hundred pages, describing and illustrating this implement, the excellence of which is unmistakably demonstrated by the favorable testimony contained in the 1326 letters from farmers who own and have used the "Acme" from one to three years.

S. L. Allen & Co.—*Philadelphia.*—Descriptive Catalogue and Price List of the *Planet Jr.* Farm and Garden Implements, with a short description of desirable methods of cultivating farm and garden crops. These goods combine lightness with strength and adjustability. The descriptions, accompanied by ample illustrations, are so clear as to enable every one to understand their construction and use.

Parsons & Sons Company.—*Kissena Nurseries, Flushing, N. Y.*—Descriptive Catalogue of Hardy Ornamental Trees, Flowering Shrubs and Vines. A large pamphlet, in which every species and variety of value in these departments is named and briefly described. The collections of Rhododendrons, Azaleas, Japanese Maples, Magnolias, and rare and choice Conifers are probably not excelled in this country.

J. T. Lovett, *Monmouth Nurseries, Little Silver, N. J.*—Illustrated Catalogue of Small Fruits, etc. This is a gem of a catalogue, gotten up with much care and artistic taste. While considerable space is devoted to the Hansell Raspberry, Manchester Strawberry, and other specialties, all the older standard varieties are enumerated and described. A beautifully executed colored plate of some of the leading small fruits as they are in reality—not in imagination—serves as a valuable guide to those making a selection of new or old varieties.

ANSWERS TO CORRESPONDENTS.

Jerusalem Artichokes.—*Mrs. W. J. Y., Sanders, S. C.*—These are planted exactly like Irish Potatoes, making furrows three to four feet apart, and dropping the sets in these about a foot apart. Cultivate like Corn, and dig at any time after the stalks become dry.

Caladium.—*Mrs. A. R. H., Washington, Ga.*—Bulbs of the common Caladium *(Colocasia esculenta)*, if solid and sound, will grow the second year, and throw out a number of side-shoots, forming a large group of plants, instead of single, tall specimens.

The Saunders Peach.—*A. W. M., Beaver Falls, Pa.*—The Saunders is a very early Peach, and one of the large class of seedlings of the type of *Hale's Early*. They resemble each other so closely that their greatest differences are in the names. Their principal recommendation is earliness.

Bulbs Rotting.—*D. D. L., Christiansburg, Va.*—Hyacinths, Tulips, and, in fact, all bulbs will rot when kept too wet. They should be watered but very moderately at first before they have started into growth. After the pots have become filled with roots, and the plants grow vigorously, there is little danger from giving too much water.

Hyacinths in Pots.—*Mrs. W. A. C.*—Bulbs that have been growing in pots during winter may be left in the pots, placed in a cellar, shed, or anywhere where they are kept entirely dry. Next fall, plant outdoors in a well prepared bed; many of them will bloom the second year; bulbs which have been forced very quickly are of little value.

Oleanders in Small Pots.—*Mrs. B., Palmyra, N. Y.*—Oleanders may be grown in comparatively small pots, and will not suffer by having the soil washed from the roots and replanting them in fresh soil in the same pots. Would not advise to cut off many roots unless they are in an unhealthy condition. An occasional watering with weak liquid manure, or a sprinkling of fine bonedust on the soil, will be found beneficial.

Phloxes and Spiders.—*A. G. K., Racine, Wis.*—Perennial Phloxes that are kept too dry are often attacked by spiders, but more frequently by black thrips. Copious watering at the roots when the ground is dry, and spraying of the foliage and flowers with a fine rose are sure preventives. When once affected, daily washing and syringing with a strong decoction of Tobacco stems, continued for a week or more, will free the plants from the pest.

Vitality of Seeds.—*H. V. S., Stockton, Md.*—The length of time for which seeds retain their vitality varies considerably according to their original quality and the conditions under which they are kept. Many kinds which in a dry, pure air keep many years will lose all vitality within one year when kept in a damp place, subject to frequent changes of temperature. Most vegetable seeds are as good the second year as the first, with the exception of Parsnip, which can rarely be relied upon longer than one year. Melons, Cucumbers, Squashes, and all of this class retain their vitality for several years,—in fact, many pickle-growers consider old seed better than that of the previous year's growth.

English Vegetables and Fruits.—*Mrs. W. F.*—The article on this subject, in our Feb. number, was, as stated, quoted from the English "Pall Mall Gazette," whose contributors are not supposed to display "broad ignorance" about the subjects they write on. Some of the statements therein were as surprising to us as to our correspondent, yet as far as they relate to small fruits they are corroborated by many observers. Professor Budd, than whom there is no more competent judge of fruits, writes from England: "The size of Gooseberries here is fabulous; quality, to my taste, below our Houghton. The Strawberry crops are as bountiful and the fruit as large as that of our best varieties, but the quality is far below our Charles Downing, or even Crescent and Cumberland Triumph."

OUR EXHIBITION TABLE.

Asparagus.—*Messrs. R. E. Cochran & Co.*, 96 Park Place, New-York, have placed on our table some remarkably fine Asparagus, grown by Mr. F. Goblet, Mount Pleasant, S. C. The first shipment was received February 5th, and so far, all that could be obtained found ready sale at an average of $1 a bunch, at wholesale. At these prices, Asparagus-growing in the South ought to be a profitable business, and the grower evidently finds it so, as he has already thirty acres under cultivation, and is making new additions every year.

Ives & Co's Fumigator is a very ingenious and convenient apparatus for destroying injurious insects on house plants. It is simple, compact, and cheap, and well adapted to the wants of amateur florists.

The Hexamer Hoe.—*R. H. Allen & Co., New York.*—This convenient, labor-saving implement is not nearly as much used as it deserves. There is no other hand-tool that can be used for as many purposes in the garden and on the farm, and with as small an outlay of strength. No one who has once used it will ever be without one.

The Acme Pulverizing Harrow.—*Nash & Bro., Millington, Morris Co., N. J.*—The merits of this implement are rapidly becoming known everywhere. We had frequent occasion to see it in operation, and do not hesitate to state that, as a Pulverizer, Clod-Crusher, Leveler and Harrow combined, there is no implement equal to it.

PREMIUM LIST.

Encouraged by the great success of our premiums sent out in previous years, and desirous to introduce The American Garden into every home, we offer special and most liberal inducements for the coming year.

All articles offered are of actual merit, and first class in every respect. Several of them are now introduced for the first time. Application for premiums should be made at the time of sending the subscriptions.

All premiums offered by mail will be sent post-paid. Those not offered by mail will be sent by express or freight, the receiver in all cases to pay transportation charges.

Every Subscriber for 1883, old or new, is entitled to One Premium, members of clubs receiving clubbing Premiums excepted, and may take his or her choice of either of the following articles:

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ONE PACKAGE OF EITHER OF THE FOLLOWING VARIETIES:

American Triumph Oats.
Adamant Wheat.
Green Mountain Wheat. *With the privilege of competing for the $210 offered as premiums for the largest yields.* (See advertisement.)

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Rural Thoroughbred Flint.—Ears measuring eighteen inches produced in 1882. (See advertisement.)

Bliss's American Wonder Peas, the best and earliest Pea grown.

American Racer Pea.—Very productive. Best round Pea grown.

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Wild Garden Seeds.—A mixture of about one hundred varieties of Flower Seeds, enough to sow a square rod of ground.

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Seeds to the amount of 25 cents for each subscription.

PLANTS.

ONE OF EITHER OF THE FOLLOWING:

Clematis Coccinea.—Scarlet Clematis. A root of this magnificent new climber, a beautiful colored plate and a description of which appears in our September number.

One Bulb of Gladiolus Shakespeare; the best white variety.

One Bulb of Gladiolus Isaac Buchanan; the best yellow variety.

Three Bulbs of selected American **Seedling Gladiolus;** all different colors.

One Bulb of either Lilium speciosum rubrum, L. sp. roseum, L. tenuifolium, or L. atrosanguineum grandiflorum.

One Bulb of Hyacinthus candicans.

FOR TWO SUBSCRIBERS.

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Elastic Plant Sprinkler, for watering house-plants. Price, $1.25. Mailed, post-paid, for four subscribers at $1.00 each; or on receipt of price.

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New York Seed Drill. (See Advt.) Very simple, compact, and easy to handle. Price, $12.00. Sent as a premium for 28 subscribers at $1.00 each; or on receipt of price, receiver to pay transportation expenses in either case.

Planet, Jr's., Double Wheel Hoe and Seed Sower Combined, or separate. (See advt.) Excellent implements; always give satisfaction. Prices: Wheel Hoe alone, $10.00. Sent as a premium for 25 subscribers at $1.00 each. Combined machine, $14.00. Sent as a premium for 36 subscribers at $1.00 each; or on receipt of price. Receiver pays transportation charges in either case.

Philadelphia Broad-Cast Seed Sower. Hand machine, price $6.00. Power machine, $30.00, for sowing evenly Grass, Grain, Fertilizers, etc. We will send the Hand machine for a club of 12 subscribers at $1.00 each, or the power machine for 50 subscribers at $1.00 each; or we will send on receipt of price. Receiver to pay transportation charges.

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Sackett Pulverizing Plow.—Cuts and thoroughly pulverizes, 10½ to 14 inches wide. Price, two-horse size, $80; three-horse, $85. Sent as a premium for one hundred and sixty subscribers at $1.00 each, or on receipt of price.

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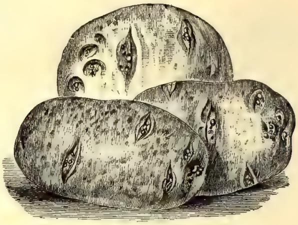

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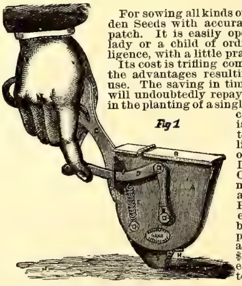
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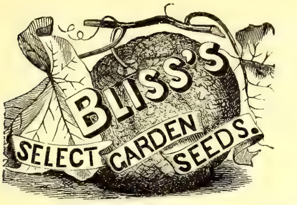

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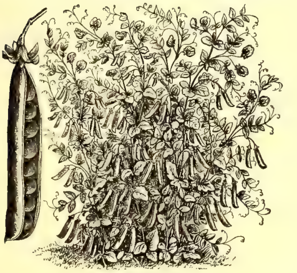

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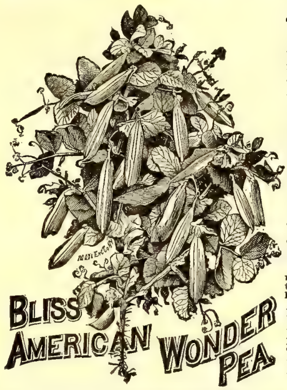

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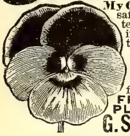

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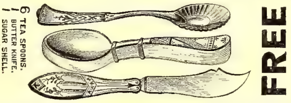
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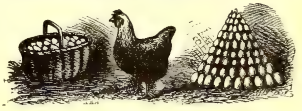

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HIGGIN'S "EUREKA" SALT.

The list of the Premiums awarded at the Grand Union Dairy Fair, on Butter salted with the Higgin's Salt, is a conclusive argument as to the superiority of this popular brand of Salt.

Sweepstakes Premium $250.00.

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Higgin's "Eureka" Salt.

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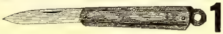

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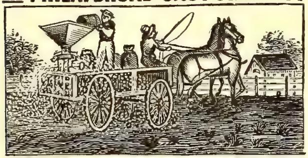

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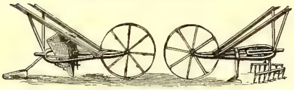

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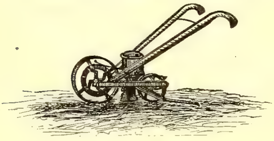

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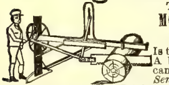

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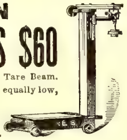

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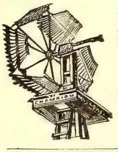

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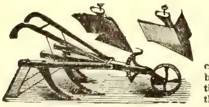

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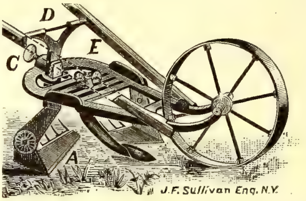
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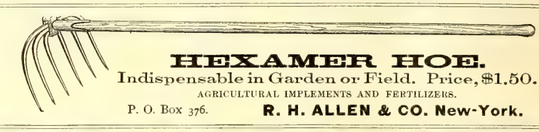

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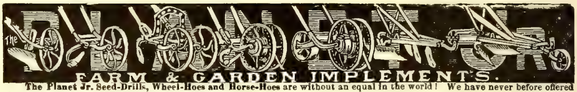
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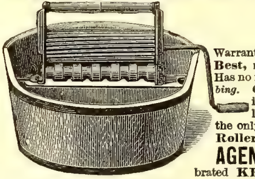

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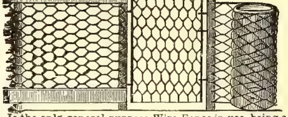

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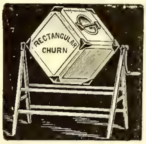

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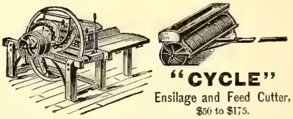

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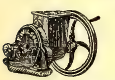

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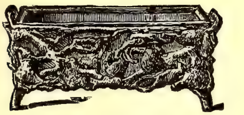

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Nine acres, divided into six equal plots (1½ acres each), all alike in fertility, character of soil, and drainage. Each plot given the same treatment with plow, cultivator, and hoe.

$36.00 worth of Manure or Fertilizer used on each plot, excepting No. 4, which received no manure.

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$36.00 worth of Mapes's Potato Manure in the drills.	$36.00 worth of Fine Barn-yard Manure, plowed under the furrows.	$36.00 worth of * * * * * Guano in the drills.	No manure.	$36.00 worth of Mapes's Potato Manure in the drils.	$36.00 worth of Fine Barn-yard Manure, broadcast after planting.
340 bushels.	**147** bushels.	**186** bushels.	**119** bushels.	**339** bushels.	**189** bushels.*
Large, smooth, and excellent cooking quality.	Medium size, lacking in smoothness and quality.	Good potatoes, but not so good in quality as Nos. 1 and 5.	Small and poor potatoes.	Most excellent. Equal to plot No. 1.	Medium size, lacking in smoothness and quality as compared with Nos. 1 and 5.
1½ acres.	1½ acres.	1½ acres.	1½ acres.	1½ acres.	1½ acres.

* This result may have been partly due to the manure acting as a mulch.

The Potatoes planted with the **Mapes** also remained green much longer than those with * * * * * Guano and Barn-yard Manure.

"The **Mapes** grown Potatoes are pronounced by all as remarkably fine, and we even now are filling orders for seed. Next season we plant the same nine acres, "and five acres adjoining, all in Potatoes, with 1,500 lbs. per acre of the **Mapes Potato Manure.**"

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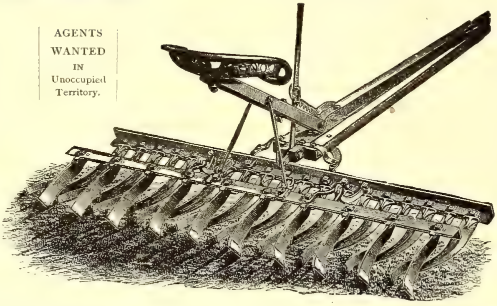
"ACME" PULVERIZING HARROW, CLOD-CRUSHER & LEVELER.

Does Complete Work where other Harrows Fail.

AGENTS WANTED IN Unoccupied Territory.



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All agree that "The judicious use of an implement like the '**ACME**' Pulverizing Harrow, Clod-Crusher and Leveler, in the preparation and thorough pulverization of the Soil, before planting, will increase the yield from Five to Ten Dollars per Acre."

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The American Garden
W.H. Gibson

Vol. IV. NEW-YORK, APRIL, 1883. No. 4.

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APRIL.

April has come — the capricious in mien.
With her wreath of the rainbow and sandals of green;
Storms on her forehead, and flowers at her feet,
And many-toned voices, but all of them sweet;
Clouding the heaven, but scenting the glade;
Wearing with brightness, and warping with shade;
Dampness her carpet, and dimness her roof;
But threads of the sunbeam shot through their woof;
Playing like childhood with tear and with smile,
Weeping forever — and laughing the while.
Like a beautiful witch, in the woodland she dwells,
Muttering magic, and playing with spells;
Mixing her charms over meadows and bowers,
Throwing her seeds in, and taking out flowers.

* * * * * *

Months follow fairer when April is gone,
But none of the year hath a gift like her own.
Richer their colors, and sweeter their breath,
But no month of them all sees so little of death.

THOMAS K. HERVEY.

OUR PARKS.

Every lover of natural beauty, every admirer and student of the grand scenery and wonderful geological formations of our country breathes freer now that the great wonder-land of our continent — the Yellowstone Park — has been rescued from the greed and grasp of a merciless corporation. The value of this national reservation to future generations can hardly be over-estimated. Within its limits exist more natural curiosities than can be found in any equal area. Here the buffalo, the bison, the moose, the elk, and all the other native game will find protection from entire extinction. Here thousands of people will come from all parts of the globe to spend their summers for recreation and pleasure. The influence which this people's park will exert upon the development of our future national life can, as yet, be but faintly conceived; but the time will come when all the gold in the world would be but a small consideration for this priceless treasure.

Niagara Falls, another wonder of the world, has already been robbed of much of its most beautiful surroundings. Fortunately, the Legislature of the State of New-York is now, in the eleventh hour, taking measures for the protection of what is left of its natural beauty. A bill to purchase the islands and adjoining land for the construction of a State park has already passed the Assembly.

The wanton destruction of the forests in the Adirondack region, in the northern part of this State, makes itself already felt in increasing floods and the masses of soil and *débris* washed down from the treeless mountain sides into the Hudson River, to the serious detriment of navigation. For the latter reason, if for no other, the State will be forced to preserve this lofty mountain region in its primeval beauty and grandeur.

These national and State parks are excellent in their way, but they are not sufficient. Every county and town should have its park, common, or green, by whatever name it may be called. In many townships the few remaining acres of woodland are rapidly disappearing, and with but little effort such lands of greater or less extent could often be secured as a pleasure and breathing-place for its inhabitants. Their maintenance need not necessarily be any expense to the town. Agricultural or Village Improvement Societies could easily take care of these people's gardens. The grounds should be open at all times to excursion parties, Sunday-school and other picnics, meetings, fairs, and exhibitions, base-ball clubs, and for healthful and proper recreation of every kind. Every visitor should be made to feel that he is owner in part, and the inhabitants would soon take pride in the preservation and attractive appearance of their Town Park.

GARDEN-MAKING.

With the opening of spring will come to most men and women the desire to join the forces of nature and make something grow. The proclivity to garden-making happily remains permanent in the race, and its general enjoyment is on the increase, from the one window or one flower-pot garden of the sewing-girl, to the conservatories and lawns of the man of fortune. It will greatly add to one's enjoyment in this line to know how to do the work best, and to share the labors and success of others by learning what they are doing. THE AMERICAN GARDEN, published by B. K. Bliss & Sons, New-York, is the magazine which best serves this end. Its editor, Dr. Hexamer, is a life-long horticulturist and scientist, who knows how to gather, use, and present facts in the most agreeable and available way. A dollar invested in its pages for a year will give many times that amount in profitable knowledge.— So says *Outing*.

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The Vegetable Garden.

SEASONABLE HINTS.

The old methods of "making garden" year after year on the same spot, and in narrowly confined beds, are rapidly falling into disuse. Yet, there are still far too many gardens worked with enormous waste of labor, simply because the force of habit is so predominant a feature in human nature that often we prefer to follow the old trodden, familiar path, although circuitous, rather than travel the better and shorter new road.

The sharp distinction which is generally made between gardening and farming is a great obstacle to the most advantageous culture of vegetables and fruits. In fact, the garden and farm are frequently worked entirely independent of each other, as if they belonged to two different establishments, wasting thereby enough labor to produce — if properly applied — an abundance of vegetables and fruits for every family in the land.

Laying Out a Garden.—In making a new garden, the best advice that can be given to those who have enough land, is to "lay out" as little as possible. On farms there is actually no need for a closed-in vegetable garden, further than for seed-beds and a few plants that require special care. Nearly all vegetables can be grown in the field alongside of the Potatoes, Corn, or any cultivated crops, without additional expense and labor. In no other way can a full and varied supply be obtained with as little trouble.

Small Gardens in village or suburban lots, in which horse implements cannot be made available, should be so arranged that hand-cultivators may be readily used. A good plan is to have a straight walk, edged with grass borders, through the middle of the ground, or, where most convenient, to the entrance. On both sides of this may be flower-beds of any desired width, and beyond these, parallel with the path, the rows of vegetables should run the entire length of the garden. All the ground becomes thus utilized, and the labor of keeping it in order is reduced to a minimum.

Hot-beds made last month need now careful attention. The sashes must be raised on all bright, sunny days, even when the outside temperature is low, and during warm days it is well to remove them altogether. Keep the plants well thinned out, to prevent their becoming "drawn," and transplant when large enough.

Small Pots are of excellent service in raising early plants. Tomatoes, Peppers, Egg Plants, Cabbage, Cauliflower, Melons, Corn, and almost every kind of vegetables, may be started in pots, and transplanted with the entire root-ball as soon as danger of frost is over. By this method a gain of several weeks is often secured, and at a trifling expense. The pots may also be used for pot-layering Strawberry plants, and when once purchased will last a lifetime.

Boxes may be used for the same purpose. The plants in these should not be placed closer than three inches apart each way; and, to prevent the roots from interlacing with each other, a sharp knife is drawn between them through the soil about every two weeks. Each plant may then be taken up with a solid block of soil attached.

CLASSIFICATION OF GARDEN VEGETABLES.

There are three leading groups of plants grown for the table in the vegetable garden. A few of these grow for a term of years, and for this reason may be known as

PERENNIAL VEGETABLES.

The first in this short list, taken alphabetically, is *Asparagus*. Every farmer should have an Asparagus-bed in some out-of-the-way place in his garden. A few years ago it was the common impression that there must be a long list of requisites in growing Asparagus, and this much retarded the general culture of one of the finest early spring crops of the vegetable garden. It requires no more skill to grow Asparagus successfully than Tomatoes or Strawberries.

Horseradish is a perennial that furnishes a spicy adjunct to meats and other dishes. The roots may be dug and prepared as desired for the table. Market gardeners obtain a superior quality by putting the roots or "sets" in the garden, and, after being treated as a hoed crop, are dug in the fall. In this way Horseradish is removed from the perennial class. Though commonly grown in a patch, each plant lies over from year to year.

A third perennial of the garden is *Rhubarb*, or Pie-plant. The large, juicy leaf-stalks are particularly relished, coming, as they do, early in the season, before most of the crops of the garden are ready for the table. A row of Rhubarb may well occupy the north side of the garden that is bounded by a tight board fence. In this way the plants are warmed by the sun into an early growth, and are also out of the way of the plow and other implements of culture. A plant may be forced by placing a barrel, with heads removed, over the crown in early spring, and packing coarse fermenting manure around the outside of the barrel.

The last perennial to be mentioned is the *Watercress*, the young and crisp stems and leaves of which are much used as a green relish in early spring-time. This is an aquatic plant, and can only be grown where water is convenient. Under proper conditions it may be grown at a very trifling expense. If there is a brook or pond at hand, an abundance of Watercresses may be grown.

HARDY VEGETABLES.

Under this head is classed a long list of garden plants, all of which may be either set out or have their seed sown in the open ground so soon as the soil can be properly prepared. In the latitude of New-York City this is not far from the first of April, much depending upon the soil and season.

The *Beet* is first in order, and is one of the most valuable, as well as oldest, vegetables of the garden. Beets require rich soil, kept free from weeds. Sow the seed thicker than desired, and afterward thin to the proper distance, using the pulled plants for greens.

Cabbages help greatly to make a kitchen-garden complete. Those for early use need to be started in hotbeds or window-boxes, and be set out as soon as the soil is ready to receive them. The Cabbages for winter use may be grown as a second crop, following Peas, Potatoes, etc. Much attention should be paid to the obtaining of the best early, and also late, sorts.

Carrots are not so highly prized as Beets. They need much the same culture. It is more difficult for the young Carrot-plant to contend with the weeds than for the Beet, and therefore should have special care at the critical time, when it first comes above ground.

Cauliflower is a near relative of the Cabbage, and is grown in similar manner. (See special article.)

Celery is one of the finest vegetables of this class. Formerly it was customary to sow the seed in hotbeds, but better success results from sowing in the open ground during April, and cutting off the tops of the plants once or twice before planting out.

Lettuce is a most healthful salad, and a kitchen-garden is not complete without it. By early and successive sowings, at intervals of a week, it may be gathered fresh and crisp as long as desired.

Onions, in the farmer's garden, are usually grown from seed. They require a rich soil, with a fine smooth surface, and the keeping out of weeds from the very start. If weeds once get established in a young Onion-bed, the crop will be small.

Parsley furnishes delicate foliage for garnishing dishes and flavoring soups, etc. It is grown like Lettuce. The tops may be cut more than once.

Parsnips need much the same culture as the Carrot.

Peas are almost universally liked. The sorts that need brush or trellises are thought by some as costing too much effort. Such persons can grow the *American Wonder* and other dwarf varieties. By using a number of different varieties, and sowing them at intervals, a dish of Green Peas may be had any day for months.

Potatoes are of more importance as a field than a garden crop, yet a few rows of early kinds should be in every garden. Since the "wet rot" has come, it is usually best to grow the early sorts.

Radishes should be found in every well-stocked garden in early spring. Sow the seed thickly, and keep out all weeds.

Salsify, or Oyster Plant, needs the culture of the Carrot. It is rapidly coming into general culture.

Spinach is fine for greens. For early crop sow in early spring, and for late crop in autumn. The bed may be covered with a mulch, so that the leaves can be gathered in the winter.

Turnip is both a field and garden vegetable. It does not demand the richest soil. Much depends upon the sorts selected. Late Turnips make a good second crop, following Peas and early Potatoes.

The third class—namely, Tender Vegetables—cannot go into the garden with safety until the soil is well-warmed, or, as the common rule runs, not until "about corn-planting time." The leading members of this important class will be in season next month.

DR. B. D. HALSTED.

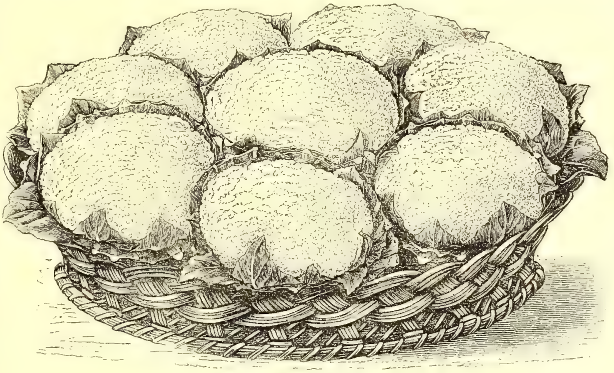
SOWING SEED.

As a general thing, says *Prof. Lazenby*, we seed too thickly, and would reap better results if we should prepare the land better, fertilize it more liberally, and use less seed. When the soil is cold and moist, we are liable to err in covering the seed too deeply. When seed had to be sown by hand, the broadcast system had some recommendation; but, with the introduction of seed-drills, the drill system is certainly the more preferable.

CAULIFLOWER CULTURE.

The Cauliflower, when grown to perfection, is one of the most delicious vegetables, and should be found in every garden, however small. It is a vegetable of the Cabbage tribe, to which it bears considerable resemblance, but differs in having long, pale-green leaves and close, curly heads, which are composed of the flower-stalks and buds before they run up to seed. Many persons are under the impression that Cauliflower is of difficult cultivation; yet such is not the case, for any soil that will grow good Cabbage will produce fine heads, if certain conditions are carefully complied with.

Cauliflower prefers a rich, deep, loamy soil, and requires clean cultivation. To obtain a satisfactory crop, the ground should be plowed or trenched as deeply as possible, working in at the same time an abundance of well-rotted stable-manure. A good dressing of bone-dust, or wood-ashes, is then given, either harrowed or worked in with the rake, and the whole leveled off as neatly as possible. The plants are set out in rows, two or three feet apart, and two feet apart in the row. If an abundance of manure is not on hand, it can be applied in the hill, care being taken to thoroughly incorporate it with the soil by means of a fork or hoe. In this way, although less manure is required, the plants suffer more in the event of drought.



SEA-FOAM CAULIFLOWER.

Keep the plants well cultivated, hoe deeply, drawing the earth up around the stems, and when the flower-heads make their appearance, tie a few of the leaves over them, rather loosely, in order to protect them from the sun and rain. Cauliflower prefers a cool and moist atmosphere, and when these conditions exist when the plants are about to head, large, fine heads will be obtained, while in hot and dry weather failures will often occur in spite of all our care. To counterbalance drought, some resort to copious waterings; yet, if the soil is rich and deep, a good mulch of coarse manure or litter will answer much better; but to be of any benefit it must be applied early, before the plants are injured by drought, especially with the early or June crop, which is most liable to suffer.

For the early crop the seed should be sown about the middle of September, and the young plants wintered over in a cold frame; or, the seed may be sown in an early hotbed, and as soon as the young plants are strong enough to handle, they should be transplanted into rich soil in a cold frame. Place the the young plants three inches apart each way; keep them close and warm until well established, then gradually expose to the open air, and plant out when large enough and severe weather is over.

For the autumn crop, the seed should be sown in the open air, about the middle of May, in a moderately enriched border. Sow thinly, and protect the young plants from the Cabbage fly by dusting them with air-slaked lime. Transplant to the rows any cloudy day, between the fourth and fifteenth of July. An ounce of seed will produce about three thousand plants. It may be well to mention that plants which have not headed may be taken up before severe frosts, and put in a cellar, placing the roots in earth, and many of them will produce tolerably fair heads during the winter.

With Cauliflower, more perhaps than with any other vegetable, much depends upon the quality and pure strain of seed. Market gardeners who do not hesitate to pay ten dollars an ounce for positively reliable seed, would not take a doubtful strain as a gift. The following are the most desirable varieties.

Earliest Dwarf Erfurt is the best known of the earliest varieties, and produces fine, solid, pure white heads,—a grand variety for forcing, on account of its dwarf, compact habit. The seeds of this variety are always very scarce.

Early Snowball, a new and promising variety, much esteemed for its reliability in heading. The heads are of good size and color.

Early Paris, a well-known and excellent variety, with large, compact, solid heads,—a fine variety to succeed either of the above.

Half Early Paris, or *Nonpareil*, one of the most popular varieties, and equally good as an early or late variety; a great favorite of the market gardeners, many of whom will use no other.

Lenormand, a very excellent variety for the late crop, producing large, compact heads.

Algiers is a most popular late market variety, especially valuable for pickling.

Sea-Foam, a new variety lately introduced, which has been tried alongside of all the older kinds, and has made a most favorable impression upon all who have given it a trial. In size, quality, and general appearance, it ranges second to no kind, while it heads more freely and evenly, and is of more compact habit than the older kinds. In forcing, as well as open ground culture, it has given most satisfactory results.

Chas. E. Parnell

RADISHES, BEETS, AND CABBAGE.

Of early vegetables, there are none as sure to produce a good crop, and none that will sell as readily at profitable prices as Radishes and Beets, provided they are grown early enough, and managed properly. The method I have followed for many years, to get these crops to market as early as practicable and with as little expense as possible, has been so satisfactory to me that it may also be of value to others.

Near the house I have a covered pen, built of slabs slipped between two posts at the corners. This is large enough to hold twenty two-horse wagon loads of soil, and on one end of it is the privy. In the fall, when the soil is dry, I cart about ten loads of rich loam from the woods and throw it in the pen opposite the privy. All the soap-suds from the laundry, and slops from the house, are also thrown in this pen, and every few days enough soil is thrown over to prevent all bad odors. In Spring all is turned over and thoroughly mixed with the scrapings of the poultry-house and some wood-ashes.

The land to be planted has been plowed up the previous fall, in narrow ridges, with deep dead furrows between them, so as to carry off the water and dry the ground earlier. As soon as the soil can be worked, the ridges are leveled, the land is well plowed, and top-dressed with the above described compost, and brought into as fine condition as possible. The ground is then marked off one and a half feet apart, and sown with Radishes and Beets, in alternate rows. As soon as the plants are up, ashes are scattered over them freely, and everything is kept clean and well cultivated.

The Radishes are sold and out of the way before the Beets require more ground. As soon as the Radishes have been pulled, late Cabbages are planted in their places, and before these have grown large enough to need all the room, the Beets have been taken off and marketed.

By managing in this way, I obtain three crops from the same ground, and, my Radishes and Beets coming on before those of my neighbors, I have generally the market all to myself for a week or two, and realize a handsome profit. The Egyptian Beet and the Early Purple Radish I have found the best varieties for early market.

T. D. Baird.

BLANCHING ASPARAGUS.

The demand for blanched or white Asparagus is rapidly increasing in our markets, to the exclusion of the green "grass." To produce blanched stalks, the roots have to be planted six to eight inches deep, in rows four feet apart. As early in spring as the ground is dry enough, and before the sprouts have started, the rows are ridged up with a plow, similar to hilling Potatoes, but making the ridges broader. The soil over the rows should be made very fine and mellow with a prong-hoe or rake, and all stones removed. The stalks are cut off about eight inches below the surface, and as soon as their tips appear above ground.

The Fruit Garden.

SEASONABLE HINTS.

Orchard Planting.—Let no one be persuaded to plant fruit trees too close together, under the mistaken idea that it is a waste of ground to give them more room than they require during the first fifteen or twenty years. It is, to the contrary, a far greater waste to plant them too close. Until the trees do occupy the entire ground, some other crop may be grown between them, as easily and profitably almost as in the open field. In the closely-planted orchard, however, the trees will soon crowd each other, exclude light and air, and consequently produce but partial and inferior crops for the remaining fifty or more years of their existence. This is the "penny-wise and pound-foolish" system—in order to avoid a possible small waste of ground during ten years to incur a manifold greater one for the remainder of one's life-time.

Strong growing kinds of Apple-trees should never be planted closer than thirty-five feet apart each way; and on strong soil, forty feet will be found still more profitable. For market purposes plant only reliable, saleable kinds. One good, well-known market variety is better than a miscellaneous assortment.

Cuttings of Currants, Gooseberries, Grape-vines, etc., may be made until the buds start; but those cut last fall, or earlier this season, may be more depended on. They should be planted as soon as the ground is dry and can be worked—never when it is wet—in moderately rich, deep, mellowed, and pulverized soil. If delayed till vegetation starts they cannot make sufficient roots, before summer sets in, to resist heat and drought.

In a small way cuttings may be planted in beds about four feet wide, with narrow paths between them. A board, a foot wide, is laid across the bed; along its edge a trench is dug with a sharp spade, so that the smooth, sloping side rests against the board. Into this trench the cuttings are placed, about three inches apart, and pushed down deep enough that only one bud remains just even with the surface after leveling. Fine soil is then drawn in, and firmly pressed against the cuttings, especially the lower ends. The board is then turned over, away from the row just planted, and another trench opened, using the soil for filling in the first one.

In nurseries, where large quantities of cuttings are made every year, they are planted in long, parallel rows, about three feet apart, so as to admit the use of horse cultivators.

The ground has to be stirred frequently, and kept entirely clear and free from weeds all summer. In very dry seasons watering may occasionally become necessary; or mulching with some fine material will prove equally effectual.

Small Fruits of all kinds may be planted at any time this month. Raspberries and Blackberries start very early, and should therefore be planted as soon as possible. When planted, cut off the canes to within a few inches of the ground, and plant but very little deeper than the plants stood in the nursery. This rule applies to nearly all plants, but especially to Blackcap Raspberries.

INDOOR GRAPE CULTURE.

Forcing of the European varieties of Grapes has been practiced since the first introduction of glass structures for growing plants of any kind. Throughout Great Britain the improvement in the culture of this fruit has been remarkable, enormously heavy bunches and larger crops being produced than was possible under the old method.

We have already some very successful growers in this country, and every year is adding new glass-houses for Grape cultivation. Owing to our hot summers, the treatment has to be somewhat different from that generally practiced in Europe, and the following method, resulting from long practical experience, has been found most successful:

PROPAGATION.

Plants propagated from single eyes make the best vines. Let the eyes be cut from well-ripened canes, having about an inch of wood on each side; place them singly in small pots, or into the cutting-bench, where a good strong bottom heat can be furnished. As soon as the roots are about an inch long, if in the sand, put into small pots in a soil consisting of turfy loam, leaf-mold, and sufficient sand to keep the earth open; place where a good brisk heat can be given, with plenty of moisture, to induce a good rapid growth. As soon as the pots become filled with roots, shift into two sizes larger, and keep growing. Upon no consideration allow the plants to get stunted in growth, as this always injures the future health and vigor of the vines. The third shift will put the plants into six-inch pots, and when this size is filled with roots, most varieties of Grapes are strong enough to be planted to their permanent position, and their shoots are long enough to be tied up to the wires on which the vines are to be trained.

GRAPERIES.

Early, or forcing, graperies are best constructed on the lean-to system; that is, having a long sloping roof to the south against a back wall of brick or wood. In building, allow ample means for giving ventilation at top and front, especially at top, as it is imperative to have plenty of air when required. I have seen more fruit scalded in houses from insufficient ventilation than from all other causes together. Front ventilation is only to be used when the fruit is beginning to ripen, as when applied when the vines are making a rapid growth it often causes mildew,—the greatest evil to contend with in growing Grapes indoors.

The border or bed in which the vines are to grow should be formed of good, rich, turfy loam,—the surface of an old pasture, cut up into small pieces, being the most suitable. Give a good mixture of pure ground bone and well-rotted horse manure. Richness in a vine border is indispensable, but I do not believe in using for the purpose bodies of animals of any kind. When I first began the formation of grapery borders, it was deemed necessary to bury some dead animal into them, to thoroughly enrich the soil. Such notions of fertilizing are now antiquated. Although grape-vines are strong feeders, it has been learned that their roots will not remain in a healthy condition when in contact with a wet mass of undecomposed animal matter.

In forming the border, have it thoroughly drained; if not naturally so, have it slope from the house to the front, about twelve feet broad, and from two to three feet deep. A dry border is necessary for success; stagnant water around the roots of the vines, especially during winter, is sure destruction to them. About two feet is all that is needed for a border inside of the house, as roots of grape-vines will not stay long inside a house if they can get plenty of food outside.

MANSFIELD MILTON.

WHAT TO PLANT.

In many localities, the growing of Grapes may be made profitable: for these can be shipped long distances at cheap rates of freight; in others, Apples, Pears, or Peaches can be grown to advantage. Since the introduction of the ice-house and refrigerator system, large quantities of Grapes, Pears, and Apples are stored and held for an advanced market, which is of great benefit to those who would otherwise be compelled to ship their fruit as soon as it matures.

In some valleys Cherries can be grown to perfection, and with but slight risk of losing a crop. When this is the case, I would advise to plant some of the dark-skinned varieties, as these carry and sell better than the white ones, which are liable to discolor during transportation. Then, if you can grow Cherries, no doubt you could grow Plums—at least, you could try a few trees, and soon learn the fact; but let your varieties be of the large, fancy kind, as the common stock is generally cheap and plenty. If you can grow Plums, perhaps you could grow Apricots, which, when large and of fine color, sell well, and there is a large demand for them at all times.

Machines for evaporating fruit are now so cheap that every fruit-growing district should have at least one. When the price of fruit falls below a paying figure, these dryers can always utilize the crop. Dried Blackberries usually sell for about eight cents per pound; Raspberries, from twenty-five to thirty cents per pound; while Cherries range from twenty-one to twenty-three cents per pound. Evaporated Apples and Peaches always meet with a ready sale,—the former ranging from fourteen to fifteen cents. While Peaches, peeled, range from twenty-three to twenty-five cents, unpeeled Peaches sell from twelve to fourteen cents per pound. I believe it would pay a grower to raise Raspberries exclusively for drying, when a drying-house is located near him. Even the wild Huckleberries, dried, have become an article of shipment, and are now selling from twelve to thirteen cents per pound.

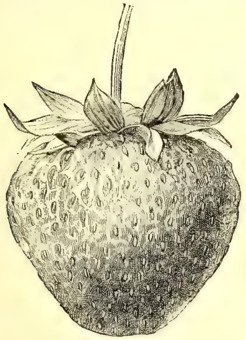
With fruits, as with eggs, it is not a safe plan to put all in one basket, for, if an accident happen it, all the eggs might get broken; but, by dividing, you can save a portion of them. Don't rush into any one variety until you have tested your ability to grow and sell it.

Although it is not advisable to plant a large number of varieties for market, it is well to try, in a small way, such new kinds as appear promising; then you can judge for yourself, and from your own experience, which is, after all, the best teacher.

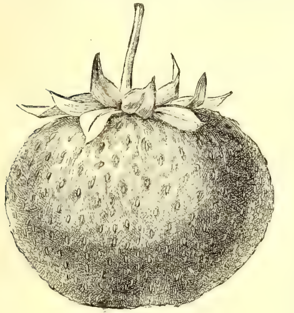
C. W. IDELL.

STRAWBERRIES AND THEIR CULTURE.

The Strawberry is one of the most capricious plants. A variety may do well in a certain locality, and in another not far distant may be a perfect failure. There are some varieties which, like the Baldwin Apple and Concord Grape, are adapted to a wide extent of territory. Such is the Wilson, which is recommended by the American Pomological Society for thirty-five States and Territories, while no other is recommended for more than twenty-eight. We must, therefore, study the character of soils, locations, and climates, and select such varieties as are best adapted to them. The acclimation of tender or half-hardy plants is a fallacy, and we must rely on the fitness of things to the condition in which we live.


MANCHESTER.

The Strawberry has assumed great importance among our cultivated fruits, and great progress has been made in the production of new and fine kinds, but there is still room for improvement. We know no reason why we may not produce varieties of Strawberries of the finest quality, and such as are adapted to every section of our vast territory.


JERSEY QUEEN.

To produce them we should select as breeders those which possess the characteristics which we wish to obtain. To make sure of a perfect cross, pistillate kinds should be chosen and impregnated with those of the greatest excellences; for example, the Crescent — which, though of second quality, possesses extraordinary hardiness and productiveness, with good form and color — with the President Wilder, Duncan, Triple Crown, and other high-flavored sorts. What is wanted is varieties of excellence that everybody can grow.

In regard to culture, the Strawberry is a gross feeder, and without a well-prepared soil and abundant supply of proper food, and at the proper time, no great success can be anticipated. We should plant on land which has not been for some years occupied with Strawberries, and manure and prepare thoroughly, and give a good top-dressing immediately after the fruiting season, and repeat this in the spring, being very careful not to disturb the roots. Well-rotted stable manure is good; ashes — or, as a substitute, muriate of potash — and bone are excellent fertilizers, and these are the better if composted with soil or manure, and allowed to heat before using. In this climate the spring is the best time for general planting.

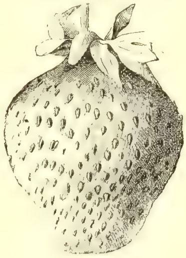
But when every care has been taken in planting, we have often to contend with the heat and drought of summer, which is the most formidable of all difficulties. No plant is more benefited by a constant supply of water in the fruiting season than the Strawberry, and I repeat my former advice, "Give the Strawberry water! water! water! and still a little more water!" If I were to grow it on a large scale for market, I would provide the means of irrigation, so that water might be given whenever needed.

Some varieties require to be grown in hills, and to have the runners cut off so soon as they appear. Such are the Sharpless, Bidwell, and Triomphe de Gand. Some are pistillate, and require the bisexual kinds to be planted near by, and to bloom at the same time. Such are the Hovey, Crescent, Jersey Queen, and Manchester. For want of proper impregnation these kinds often fail of a crop, but with a suitable companion the pistillate varieties produce very large crops, as did the Hovey forty years ago, and as Mr. Hovey shows us it can do now. Some varieties produce a large number of trusses, and give promise, when in bloom, of extraordinary crops, but do not yield so much as those of less pretentious appearance. There is a limit to the power of production, and where there is a superabundance of trusses of flowers, only a portion will set their fruit and carry it out to perfection without excessive stimulation. Another cause of failure is a deficiency of pollen in some of the bisexual varieties, and it is well to plant near them such as are furnished with abundance of it.

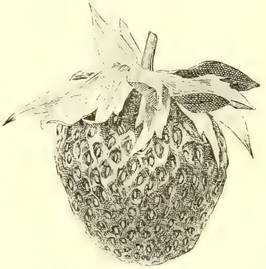
Among the varieties which are taking the place of the Wilson and other inferior kinds is the Charles Downing. Though not hard enough for distant transportation, it is for home use and near markets assuming a prominent place for general cultivation. The catalogue of the American Pomological Society shows, that during the last eight years the Charles Downing has increased in popularity four times as much as the Wilson in the same period, and stands to-day second on the list of forty-one varieties. It sometimes blights, but has never done so with the essayist for fifteen years, and there is now no variety of equally good quality so generally cultivated.

For garden culture I prefer planting in rows three feet apart, and one foot apart in the rows, allowing each to make from two to four shoulder runners, and no more, for the first season. These, by autumn, will make a row of thrifty, strong-bearing plants, and will produce more than the common matted row. For field culture, the rows should be four feet apart, and the plants one foot in the row, and all superfluous runners should be pinched off, so as to leave only strong plants. The degeneracy or wearing out of varieties may often be traced to the exhaustion of proper elements in the soil, and to bad manipulation of the plants.

In the rage for novelties, described as the "best in the world," we meet with many disappointments, and sometimes become disgusted with their failures, and cast them out as worthless without a fair trial. So also with some of the old kinds, which have not been so much cultivated as in former years, such as the Hovey, Jucunda, Triomphe de Gand, and others which were once popular. It would be a wise measure for the Society to offer a special premium for the restoration of those old, valuable varieties of fruits and flowers which have gone out of general cultivation.


PRIMO.

Among the new varieties now being promulgated as possessing extraordinarily good characteristics are the Manchester, Jersey Queen, Primo, Hart's Minnesota, Iron Clad, James Vick, and Big Bob — the last unfortunately saddled with a vulgar name, which I ask pardon for uttering. Should any one of these come up to what is claimed for it, we should need no other kind. But we have not yet arrived at the summit of perfection with the Strawberry or any other fruit. What has been said should not prevent any one from testing these new varieties, but we should prove all things, and hold fast to those which are good. The field for improvement is immense; with the appliances of cross fertilization and human skill, its limits are almost without bounds.— *The Hon. Marshall P. Wilder, before the Massachusetts Horticultural Society.*


HART'S MINNESOTA.

During the discussion which followed the above address, Mr. John B. Moore said that the Strawberry crop is not always in proportion to the manure. If a plant has food enough it is a question whether more is not injurious. He knew of crops that had been injured by too much nitrogenous manure.

The Flower Garden.

THE SPRING CONCERT.

King Spring will give a concert soon
Within his palace green,
Where all the fashion, rank, and wealth
Of Woodland may be seen.

The hall is painted green and brown,
The ceiling sapphire-blue;
The floor is laid with carpeting
Of many a gorgeous hue.

Great artists true, and not a few,
Come flocking at his call,
And when the concert 's over, 'twill
Be followed by a ball.

Sweet Robin sings a carol gay,
With many a shake and trill,
While Blackbird on his rustic pipe
Exhibits wondrous skill.

Tom Frog will bring his big trombone,
Phil Woodpecker his drum,
And Linnets, Finches, tiny Tits,
To swell the chorus come.

Jack Sparrow gayly struts about
With modest Jenny Wren;
Good Parson Rook hopes wedding fees,
And caws a gruff Amen.

When birds begin to flirt, 'tis time
For dancing to begin;
So all the beauties of the court
You'll soon see trooping in.

Queen Rose, and Lily, Violet sweet,
And modest Harebell blue,
Pale Primrose, Daisy, Daffodil,
Speedwell, and Woodbine too.

A gay selection for the dance
The bustling Breezes play,
Of waltzes, reels, and minuets,
Quadrilles, and polkas gay.

King Spring will send you tickets all,
Post-paid to every part;
The court dress needful is a smile,
The price a merry heart.

—*Harper's Young People.*

SEASONABLE HINTS.

Sowing Flower Seeds.—A hotbed is the best place to start seeds of tender plants; hardier kinds may be sown in cold frames, and where none of these appliances are at command, the same object may be accomplished with boxes or flower-pots in a sunny room in the house.

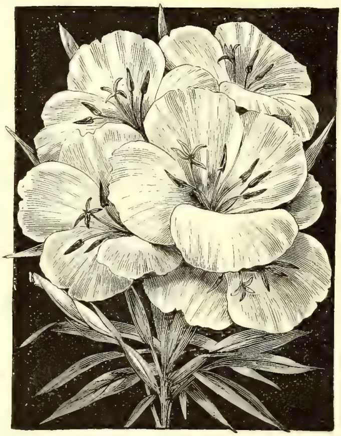
Covering Seeds just the right depth is the great conundrum with amateur horticulturists. As a rule, the smaller the seeds the lighter they should be covered, increasing the depth of soil with the larger size of the seeds. There is less risk in covering too little than too much, and those in doubt about the proper depth of soil to put over their seeds will generally have better success by leaving them entirely bare than by covering so deep as to smother them. More seeds are lost annually by being covered too deep than from all other causes combined.

Very Small Seeds should not be covered at all, but simply be strewn thinly over the previously smoothed and lightly patted fine soil in pots filled to within about one inch from the rim. After sowing, the pots should be placed in lukewarm water, but not so deep as to run over the rim, until the soil is thoroughly soaked. The pots are then placed in a warm position, covered with a plate of glass, and shaded for a few days.

GODETIAS.

These beautiful annuals, although natives of California, are as yet not often found in our flower-gardens, while in Europe they have long been held in high esteem. They are exceedingly handsome and showy, grow a foot or more high, and the older varieties bear a profusion of rosy-lilac flowers.

The seed should be sown early in spring, in a hotbed, or in pots in the house, and transplanted outdoors about the middle of May. The soil should be deep, but not very rich; nor should the plants be set close together, else they will grow spindling, and produce more leaves than flowers. They are also well adapted for pot culture in the house, for which purpose the seed is sown in autumn. Several new varieties have lately been introduced, some of which are decided improvements over the older kinds.



GODETIA—DUCHESS OF ALBANY.

Lady Albemarle grows a foot high, has very large flowers of intensely rich carmine-crimson color, edged with pale lilac, resembling some kinds of Hibiscus.

Duchess of Albany is among the novelties of this year, and seems to be a superb variety. It is described as producing a profusion of large, handsome, satiny-white flowers, the individual blooms frequently measuring four inches across, and being decidedly the finest white Godetia ever sent out. The plants, when in full bloom, resemble miniature Azaleas, profusely covered with trusses of flowers, which entirely hide the foliage.

WATER-LILY CULTURE.

The praises of our sweet native Water-Lily can never be too highly sung. Its lovely flowers are worthy of a place beside the most costly exotics. Lovers of this charming plant will be glad to know that there are quite a large number of species and varieties of *Nymphæa* and similar aquatic plants, both hardy and tender, which would be an ornament to any garden, whether humble or pretentious, producing flowers varying in size from the tiny *N. pygmæa*, no larger than a half-dollar, to the grand *N. Devoniensis*, eleven inches across. Many colors are represented also. Pink in *N. odorata rosea* and *N. alba rosea;* brilliant red in *N. Devoniensis* and *N. rubra;* lavender-blue, in *N. cœrulea* and *N. scutifolia;* deep blue, almost purple, in *N. Zanzibariensis;* yellow in *N. flava.* There are also many white varieties, each of which is distinct from *N. odorata.*

Nelumbium speciosum, or the Egyptian Lotus, has large flowers, with petals white at the base, shaded off into pink and rose color. It is far more beautiful than the American species *N. luteum*, the Water Chinquepin. The first day the flowers open they appear like gigantic Tea-rose buds, and are of a bright rose color. The second day they open like a Tulip, and are creamy-white and pink, measuring under good culture ten to twelve inches across. It has proved to be perfectly hardy in this latitude, notwithstanding the fact of its being a native of warm climates. It is one of the noblest aquatics ever introduced, and makes a fine ornament for any piece of water in the pleasure-ground, or for a carp-pond.

Much has been written about the culture of these plants in tubs, but a tank or basin, even if only of moderate dimensions, will give much greater pleasure. A tank of six feet in diameter would do very well for either one kind of Lotus,—one large-growing *Nymphæa*, or three small varieties. A larger basin might be built in the following manner: A warm, sunny position should be chosen, and an excavation eleven and a half feet long, seven and a half wide, and two deep, should be made. A wall of bricks, laid in cement, should be built inside this excavation; a coat of cement, three-fourths of an inch thick, laid on the smooth bare earth of the bottom, and the inside of the brick wall covered with a thin coat of the same material. Some arrangement for drawing off the water from the bottom, and an overflow pipe near the top, is desirable. A rich compost, consisting of good loam and the best stable or barnyard manure in equal quantities, is found to suit these plants perfectly. River mud is entirely unnecessary.

If you wish to grow only hardy species, or if you wish to devote the whole basin to two or three of the tender kinds, and produce large flowers, then put in the compost to the depth of one foot. For the Egyptian Lotus, a partition one foot high, made of brick laid on edge, should be put across one end of the tank, inclosing one-third of the space. This is to prevent its roots from spreading in among the other plants, for the Lotus is a great rambler.

If a larger number of varieties is desired, then put no soil on the bottom of the basin, but keep all the plants in pots and boxes. This will not prevent them from blooming freely, but will dwarf them so that you can grow more plants in the same space. In the fall the tank should be covered with boards and litter, to prevent injury to the walls by frost.

Algæ—the green scum which sometimes floats on the surface—may become troublesome and unsightly in Water-Lily tanks and small ponds. From several years' experience in using tanks for Water-Lilies, I am convinced that the best remedy for this trouble is to keep plenty of fish in them, particularly those kinds which feed on vegetable matter. Last season I introduced gold and silver fish. The green scum soon disappeared, and I had no trouble whatever with it the whole season. Probably the German carp would answer the same purpose. E. D. STURTEVANT.

DWARF CONVOLVULUS.

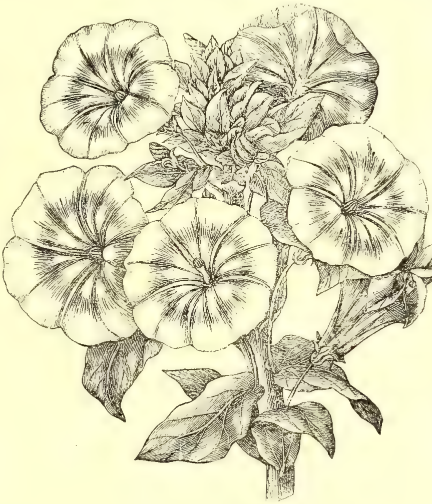
Convolvulus minor (tricolor).

While the tall, or climbing, Morning Glory is one of the widest distributed and most common garden annuals, the dwarf, or bush species, is comparatively little known; and yet it is of the easiest culture, and, when well grown, a most effective and beautiful bedding plant. It grows about a foot high, forming a compact bush, and, trailing on the ground, covers a circle of nearly two feet in diameter. The flowers are of the same shape, but of smaller size, than those of the climbing Morning Glory. They may be used for bedding, sowing about four seeds in hills two feet apart; or for edging, for which purpose they are especially adapted. In either case they form a compact mass of green, completely covered with flowers.

The seeds should be sowed in deep, rich soil, as early in spring as the ground can be worked, and covered about an inch deep. They may also be started in pots, in the house, and transplanted when the weather is warm enough; or, if kept in the pots, they make charming plants for hanging-baskets or vases.

The prevailing color of the flowers is blue or white, shaded with yellow. Our illustration represents, as well as can be shown without colors, a new variety originated by Mr. V. Döppleb, of Erfurt, Germany, and introduced under the name of *Convolvulus tricolor roseus.*

"In this new variety," says the introducer, "a delicate rose constitutes the leading color. The throat of the flowers is marked by five broad, pure gold-colored stripes; the center is pure white, and bordered by splendid violet-purple rays, while the upper, and by far the largest part of the flower, is of a delicate rose color." As far as we are aware, this variety has not yet been grown in the United States, and, as it is said to come true from seed, we shall watch with interest its development during the coming summer.



CONVOLVULUS TRICOLOR ROSEUS.

THE DAHLIA.

Dahlias love a moist atmosphere. Grown near a pond, or close to running water, or a fountain, their blossoms are much improved. They need firmer support than a mere stake. Training to a fan-shaped trellis, facing the south, is to be recommended. Thinning out of the lower branches by pinching, removal of the first bud, which always makes a poor flower, and not allowing them to over-bloom, are requisites to success. Early blooming is not desirable. The flowers beginning late in September are the best.

I treat a Dahlia somewhat like a Melon. I make an eighteen-inch square hole, which I nearly fill with half-rotted stable-manure (cow-manure is best), dash the soil over, leaving the hill depressed in the center, and set out the plant. This may be a rooted cutting, a pot-plant, or a sprout from a large root, with part of the crown of the tuber attached — the last the best form. Then, by by means of a crowbar, I set firmly a stout stake, with a couple of cross-sticks, or a trellis, on which to train the branches.

Seedling Dahlias frequently produce fine novelties, and the growing of seedlings is as easy as — lying. The old notion that the Dahlia is strictly a biennial, is not true — at least not north of Philadelphia. I sow the seed in a cold frame, or in heat in April, or in the open ground in May, and can tell the quality of the flower in August. When the seedlings are two inches high, or thereabouts, I dig a trench a foot wide, fill it with fresh stable-manure, well tramped down, throw on the dirt, and set out the plants eighteen inches apart in the rows. But, in this case, you must water the ground every evening in dry weather, for two to three weeks, or the plants will burn up: for each has his own little hotbed.

I used to fertilize the Dahlias carefully, and produced fine results that way; but I soon found out that the bees were better at the business, and left it to them. It is mere chance in any event, and new kinds are capricious. In some seasons I have found the seeds from different varieties turn out all nearly of the same shade; while, at other times, I have had the greatest variety from seeds of a single plant. I obtained once twenty-five double sorts from twenty-six seedlings, and the next year, out of over five hundred seedlings, had but two doubles, and one of these a dingy purple; so that growing seedlings is not unlike the one eel in the bag of ninety-nine snakes. It is a fascinating business, for all that.

A good double Dahlia should be circular, of semi-globular shape, and showing no center until the last. Its petals may be quill-shaped, shell-form, or crumpled cup — the last the finest. If you want the blooms large, let but a few be upon the plant. You may let the pompone varieties bloom to their own sweet will, while the smaller they are the better.

The whole secret of growing good flowers lies in rich soil, moderate heat, continuous moisture, *mulching* with leaves or manure, and careful pinching out of redundant shoots and blossoms. Above all, their support must be firm. T. D. E.

CALIFORNIA LILIES.

Among the plants that are giving unsatisfactory results with ordinary culture are the more delicate species of California Lilies, notably *Lilium Washingtonianum.* This requires a sheltered locality, visited only by the early morning sun. In its native habitat it grows in rocky basins, from which the radiated heat becomes its stimulant. In the dry season, in these warm, arid spots, unvisited by any moisture save the falling dew, the bulbs are carried over their dormant period. This Lily, in its season of growth, reaches a height of twelve feet, and to produce it, under cultivation, in such perfection would be a crowning glory to any florist. To do this, we have only to find "the reason why."

Mrs. N. W. Winton.

A PRETTY FLOWER-BED.

A flower-bed of exceedingly pleasing effect, and yet inexpensive and simple in its construction, is thus described by a correspondent of the *Country Gentleman:* "The form was a circle, about four feet across. A row of bricks was laid in a circle, and on the top of these were laid large bits of common quartz, which looked very white and pure along the side of the soft, green grass. The inside was filled with rich loam; leaving about ten inches of this for the outside flower-bed, another row of the white stones was laid, and earth filled in to raise it some six inches above the outside. In the center of this bed a row of larger stones was laid compactly, and raised up about eight inches, forming a nice, large flower-pot. Growing in this was a splendid Happy Thought Geranium, loaded with immense clusters of flowers. Sweet Mignonette was growing in the crevices of the rocks. The middle bed was filled with China Pinks of many varieties, and lovely Balsams. The outside bed had Roses, Nasturtiums, Pansies, and other bright-hued flowers; and Sweet Alyssum grew in the crevices of the quartz. It was free from weeds, and the whole had such a lovely appearance that I thought it was a new arrangement, and was quite surprised to learn that it had been made three years, and was much easier to keep in order than it was the first year.

"In another part of the grounds there was growing a large clump of white Petunias, completely covered with pure, sweet, white blossoms. The secret of their wonderful growth was simply a bottomless earthen pot, sunk into the earth and filled with old chip-dirt and stable-manure to within six inches of the top, the rest being filled with the earth taken from the ground where the pot was set. I never saw so large a growth of the plant, or such an abundance of bloom, and it kept its beauty till November."

For an inexhaustible supply of fragrant flowers all Summer, there is nothing so reliable as a row of *Sweet Peas* grown in the vegetable garden, brushed and cultivated like other Peas. The more flowers you cut, the more new ones will be produced.

Lawn and Landscape.

MAKING LAWNS.

Where the ground is unobstructed by trees or buildings, the quickest and simplest way of preparation is by first plowing and then reducing, fining, and leveling with harrows and other tools, such as a farmer or gardener uses for obtaining a fine degree of tilth.

The object to be attained is a deep, rich, mellow soil of great uniformity of character. A lawn that runs into a sandy knoll at one corner, and a bed of clay at another, and overlies in one place a deep fill of coal-ashes, and in another a pile of old chips of unknown depth, cannot be expected to be uniform in color or durability.

When a lawn is to be made by plow and harrow on land with but slight inequalities of surface, an instrument called a "float" is used to great advantage. This is simply a two-inch plank, eight feet long, set on edge, with two stakes, five feet long, inserted in such a way, that when the ends rest upon the ground behind, the plank will present an angle of about twelve degrees to the perpendicular. Two holes are bored in the plank to attach a chain to draw it by. When sufficiently weighted, such an implement rapidly planes down the higher places and deposits the surplus soil in the depressions. The error is often committed of making the planing or floating the last operation. This leaves the higher points with only an inch or two of mellowed soil, while the depressions receive an addition of that planed from the higher places. After the first floating, the spots that have suffered by the operation should be thickly covered with rotted manure, and the whole re-plowed, harrowed, and again floated. Often this process can be profitably repeated a third time. This may seem like taking a good deal of trouble, but it should be remembered that the beauty of a lawn depends upon a rich carpet of verdure of a uniform deep green, which cannot be had without depth and fertility of soil.

In making small lawns with spade and rake, a wheel-barrow of rotted manure should be constantly on hand, and used freely where needed. Inequalties should be leveled before spading is begun, and the soil made deep, rich, mellow and fine before the grass seed is sown. Autumn or early spring is the best time for sowing the seed; but where abundance of water can be had, a lawn can be seeded at any time during summer. If seeded thickly, after mid-summer very little annoyance will be experienced from weeds. It will be necessary, if the weather is clear and hot, to water several times daily, as neglect for a single hour beneath an August sun will kill the sprouting seed and young grass.

Our climate and soil are so variable that it is not possible to name grasses that will succeed everywhere equally well. Red Top, *Agrostis vulgaris*, and June Grass, or Kentucky Blue Grass, *Poa pratensis*, are the best grasses for American lawns, and should be sown at the rate of one bushel of the former to two of the latter per acre. White Clover is often added, but to no special advantage. Timothy, Orchard Grass, and Red Clover are totally unfit for lawns, and should never be used. Most English lawn grasses are unsuited to our climate, and soon give way to native weeds and grasses. Grain should never be sown with lawn grasses; it is of no benefit whatever.

Small lawns may be sodded, but the same preparation of the ground should be made as for seeding. Last year, about the first of June, I made a small lawn by removing about half a rod of sod for a Verbena bed, and, cutting it into small pieces, had them planted with a garden trowel at intervals of sixteen inches in the prepared ground. The grass all lived, and now covers the ground. The weeds were mowed as often as they got three inches high, and it did not seem that there were any more than in lawns seeded in the spring. Simply scattering small pieces of sod on prepared soil, and forcing them into the ground with a maul, is nearly as good as planting, if done early.

A good lawn cannot be maintained on very sandy ground, and such soil should, where possible, be treated to a heavy application of clay before seeding.

All under-drains, water, and gas-pipes should of course be put down before the lawn is made. Where the lawn is large, and horse-power is used in preparing the ground, it is generally most convenient to make the walks and drives after the grass is well established; but where hand-labor is used, it is best to make them first, using the stones and other imperishable *débris* for filling in, and the soil for grading and leveling.

L. B. PIERCE.

EXTERMINATING SORREL FROM LAWNS.

The troublesome plant *(Oxalis acetosella)*, recognized in different parts of the country as Horse-sorrel, Wood-sorrel, or Field-sorrel, frequently roots out from lawns every spear of Grass and every stool of White Clover, and this, where the soil is a light, sandy character, in the short space of two or three years. We observed several lawns during the season of 1882, which had been graded and highly manured only two years previous, that were entirely overrun with Sorrel of a luxuriant growth. It had been the practice to top-dress the lawns with stable manure from horses and cows which had consumed hay in which there was a large quantity of Sorrel-seed. Early in the growing season the Sorrel-seed germinated, and the young plants took root, grew rapidly, and in a short time occupied the entire lawn. That such a luxuriant growth of Sorrel should appear in the course of a few months is usually a puzzling mystery to those who are not familiar with its habit of propagation. In clay soil the roots of Grass and Clover will maintain their positions in the lawn and choke out the Sorrel, provided the land is kept in a medium state of fertility.

In the spring of 1882 a luxuriant growth of Sorrel appeared on the lawn of a neighbor, and, prior to the 20th of May, it was in blossom, and from one to two feet high. Not a spear of Grass or Clover could be seen on the lawn. He was considerably puzzled to determine how to exterminate that troublesome intruder. As the soil was then unusually dry, he adopted our advice to plow the ground with narrow and shallow furrows, not more than three or four inches in depth, followed by harrowing thoroughly three or four times. This work was done before any seed had been matured. As the weather continued hot and dry for several days, every root and branch of Sorrel on that lawn withered and died. I watched the growth during the entire season, and to my glad surprise not a solitary plant of Sorrel appeared until the latter part of October, when one could see here and there a few small seedlings, which had sprung from the seeds that had for a long time, perhaps, laid dormant in the soil.

Field Sorrel is by no means difficult to exterminate, provided one will manage properly. Let the Sorrel grow until the blossoms appear; then, when the soil is dry and the weather hot, let the entire ground be plowed as shallow as possible, and turn up all the roots. The main roots of Sorrel-plants grow near the surface of the ground. Consequently, they will be more effectively exterminated by plowing shallow, thus keeping the roots near the surface, where they will be fully exposed to the sun and the withering influences of dry weather. One of the most important considerations is to spread no top-dressing on lawns in which there exists seeds of weeds. Where the soil is light and mellow, and the lawns are top-dressed with manure from animals fed on hay containing weeds that have matured their seeds, it will be utterly impossible to keep lawns free from Sorrel and other noxious weeds.

S. E. T.

INCLOSING GROUNDS.

The question is often asked, Shall we throw our grounds open to the public street by the removal of all fences? If your grounds are occupied only with well grown shade trees, and you have nothing but trees and lawn, you may remove all barriers. Perhaps even then you may desire some seclusion by planting a scattered belt or broken line of small trees and shrubs on the public side. But if, on the contrary, you have costly plants and rare flower beds, or loaded fruit-trees, it may be best to diminish the temptation to stragglers by imposing some kind of barrier. If the street is two feet or more lower than the grounds, with a wall or sloping bank, but little more will be needed, or at most a line of small shrubs on the crest of the bank. In the absence of this natural inequality of the ground, larger and denser plantings will be required, and if the shrubs employed for this purpose are placed in somewhat irregular line, with occasional openings opposite to masses of growth farther in, they will not present the stiffness and obtrusiveness of a straight uniform hedge.

Evergreens may be freely employed, and the larger ones, such as Norway Spruce, or Hemlock, may be easily kept within moderate bounds by cutting back every few years to the forks of shorter branches. This work, however, will be likely to be neglected at the right time, and it may be better to set the dwarf species only, which will require no further care. Among those may be named the dwarf varieties of the Norway Spruce, the dwarf White Spruce, some of the varieties of the Juniper, and other shrubby Evergreens; but the finest thing of the kind is the Tree-box, the best varieties of which make a compact and beautiful bush, requiring no pruning.—*J. J. Thomas, before the Western New-York Horticultural Society.*

The Window Garden AND GREENHOUSE.

THE HELIOTROPE.

This charming plant is always admired, and will ever be a favorite in the house as well as the garden; yet it is seldom grown as well as it should be. It requires frequent re-potting, and a rather strong, loamy soil, mixed with leaf-mold and sand. It bears pruning well, and should be often cut back.

In house culture the plants are frequently affected with "rust," caused by a very small "mite"-like insect, that burrows into the young growth of the plant, sucking the sap and contracting the skin whilst the leaves are very small and tender, thus producing the discolored and shining appearance. It is not alone Heliotropes that are thus affected, but Verbenas, Fuchsias, Geraniums, and Gloxinias are much troubled with it if subjected to any severe check in growth or a very dry atmosphere. We find a remedy for the moment in two or three immersions, at intervals of as many days, in a bath of tobacco tea. This is made by pouring boiling water over tobacco stems, the refuse from cigar-making, or the commonest smoking tobacco; half an ounce of the latter will make a gallon of tea as brown in appearance as weak coffee. Take the affected plants in your hand, turn upside down, pressing the ball tight to prevent it coming out of pot, and dip the whole plant in your tea for four or five seconds, so as to cover all the surface. When plants are badly infested, it will be necessary to shake out or wash off the soil entirely, and re-pot into smaller pots in rather sandy soil, with good drainage. The tops should be cut back, the plants placed in a warm, moist atmosphere, and shaded for a few days.

When the necessary care and attention is given, Heliotropes are among the best window plants; but they are very sensitive to coal gas, and a low temperature is certain death. They were frequently used years ago, when thermometers were dearer than they are now, as "tell-tales" if the greenhouse fires had been neglected.

Ordinarily they are grown as bushes, but they may easily be trained as standards on stems three to four feet high, with compact, round heads, similar to Standard Roses.

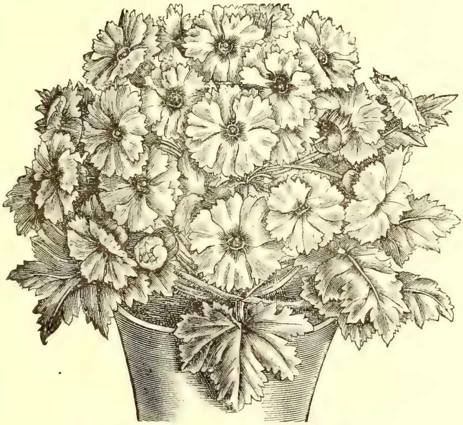
The principal points to be observed in the culture of Heliotropes are never to allow them to become completely dry at the roots, and also not to expose them to cold draughts of air, else they will surely become sickly and lose their leaves, which, when once dropped, can never be replaced, except by cutting back the entire plant. Bright sunlight is essential, and an even temperature of fifty to sixty degrees is most agreeable to them. Insects have, of course, to be kept off, and an occasional application of weak soot-water will be found beneficial.

John Thorpe.

CHINESE PRIMROSES.

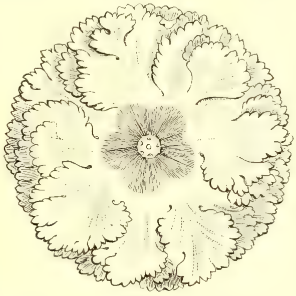
(Primula Sinensis.)

I sow my Chinese Primroses in early spring, in a pot of light, sandy soil, and place a pane of glass over it till the seedlings appear. As soon as they come up, I prick them off into small pots,—four or five in a 2¼-inch pot,—and when they grow large enough to touch each other, pot them off singly into the same sized pots; then, as they require it, re-pot them into 3, 4, 5, or 6-inch pots. In the spring-time, of course, I keep them snug and comfortable in the house or greenhouse, and in summer grow them in a cold frame. They need shading from sunshine and protection from wind all through their growing season, to be grown in light, rich earth, and be kept as cool as practicable in summer, and moderately moist all the time.



PRIMULA SINENSIS ALBA MAGNIFICA.
Reduced size.

I have grown several of the newer varieties, such as *alba magnifica*, *Meteor*, *Chiswick red*, *Swanley red*, *Swanley white* and *Swanley pink*, and *coccinea*, and have seen several others with my neighbors, and I have no hesitation in pronouncing *alba magnifica* the finest white Primrose in cultivation, and *Meteor* the most brilliant red one. *Alba magnifica* comes very true from seed, but I cannot say as much for the different red Primroses. A few second-rate ones in quality and color have come up among the best of them, and my last spring's packet of imported Chiswick red yielded more poor flowers than any packet of the other kinds. Swanley pink is a beautiful variety, but Swanley purple is not bright enough for my taste. Considerable emphasis is given to fern-leaved varieties; but I must say that the rounder-leaved sorts have—with me, at any rate—yielded as good blossoms and as many of them as the fern-leaved forms; besides, it is often hard to tell whether a Primrose is fern-leaved or not. Take *alba magnifica*, for instance.



PRIMULA SINENSIS ALBA MAGNIFICA.
Single flower. Natural size.

A neighbor has two plants of the blue-flowered Chinese Primrose, *Holborn Gem*, in bloom. The flowers, considered as Primrose blossoms alone, are large, well formed, fringed, and of good substance; and the color—which is a good mauve, or purplish-blue—is decidedly distinct from anything ever before attained in the Chinese Primrose. Although by no means so striking or generally attractive as the snowy white and brilliant red-colored Primroses are, it is as unique in its class as a lavender-blue colored Rose would be among Nephitos and General Jacqueminots. It comes true from seed.

Wm. Falconer.

BOUGAINVILLEAS.

Small specimens of these remarkably beautiful greenhouse plants in bloom have lately made their appearance in the flower markets, attracting deserved attention; and as it is generally considered rather difficult to produce flowers on small plants, the following bit of experience may offer some useful suggestions in this regard.

Some time ago I had under my charge a good-sized plant of *B. spectabilis* in an eighteen-inch pot, trained under the glass, which had refused to bloom for a number of years, and as it had begun to encroach on the adjacent climbers, it was condemned to a cool greenhouse. On its removal quite a number of roots were found to have made their way through the bottom of the pot into the soil around. All these had to be cut off, and the following season the plant bloomed splendidly, of which pleasing result the root pruning and the lower temperature were evidently the cause.

B. glabra blooms much easier; the bracts are a shade lighter than in *B. spectabilis*, and the leaves are light green and quite smooth. The plant has a handsome appearance when the main stem is trained near the glass, allowing the young wood to hang down. To succeed in blooming it one should make it a rule to prune on the spur system, thin out superfluous shoots during summer, restrict the root room, and keep dry during the resting period.

Francis Regan.

HARDENING PLANTS.

All window-plants should now have plenty of air and light. The windows should be opened on every mild day, but sudden cold draughts must be avoided. As a rule, it is best to ventilate in the forenoon, and close the windows before the sun leaves them.

Foreign Gardening.

TROPICAL FRUITS.

THE CUSTARD APPLE.

This family furnishes some of the most luscious tropical fruits. The Atta of Brazil, the fruit of *Anona squamosa*, is about the size of a small Apple, covered with projecting scales of a glaucous green color, which inclose the large black seeds, bedded in a white, sweet pulp. Opinions differ as to this fruit; some people are very fond of it, while it is too sweet for others. In Para it does not succeed well, but in Santarem, four hundred miles up the Amazon, it grows in great perfection. The Bereba is the fruit of a tall tree, *A. reticulata;* it is scaly, bright-yellow when ripe, somewhat cone-shaped, and full of a rich, yellowish-white pulp, coarser and not as sweet as the Atta. In Brazil this fruit does not attain a great size, but in Peru we have seen them as large as small Pineapples. Another tree of this family *(A. muricata)*, the Sour-sap, bears a fruit, in our opinion, the best in Brazil. It has a thin, greenish skin, covered with soft, curved freckles. The pulp is white, a delicious combination of sweet and sour, and is most refreshing.

Another fruit of this family is called Frúta de conde liza. It is smooth outside, heart-shaped, with yellow flesh, seeds like the Atta, and of a sickish-sweet taste. The Cherimoyer of Peru, which has the reputation of being the most delicious fruit in the world—most undeservedly, in our opinion—is heart-shaped, and in taste somewhat resembles the Atta. It is the fruit of *A. Cherimolia*, and, though cultivated in many tropical countries, is not, so far as we have seen, found in the Brazilian part of the Amazon Valley.

EUGENIAS AND MYRTLES.

Of the genus Eugenia, belonging to the Myrtle family, there are several species which produce an edible fruit. In greenhouses there is often seen in the United States a representative, *E. Ugni*, from Chili, which, even when very small, bears blackish, sweet, edible fruits. In Brazil these Eugenias attain the dignity of small trees, which, both in growth and foliage, are very beautiful. The most common of these is the "Grumixameira" *(Eugenia Brasiliensis)*, which bears a fruit resembling in color, size, and taste a flattened black Tartarian Cherry. The fruit of *E. Michelii* somewhat resembles the last, but is red, smaller, and of little flavor. *E. edulis* is called Canbuca, and *E. tomentosa*, Cabelluda, but neither commend themselves to the foreign taste. The Rose Apples, which are very beautiful, are produced by *E. Jambos* and *malaccensis;* but, in spite of their delicate color and attractive appearance, they are very insipid. The best fruit of the family is the Jabuticaba, produced by *E. cauliflora*. It is about the size of a Plum, and, like many fruits here, is borne upon the trunk of the tree. In Para it does not succeed, but in Southern Brazil it is considered one of the most delicious fruits. We have classed all these plants as Eugenias, though the Rose Apples are in some catalogues known as *Jambosa*, and the Jabuticaba as a *Myrtus*. E. S. RAND, JR.

Miscellaneous.

MID-WINTER FLORAL BEAUTIES.

In the bustling village of Lee, Mass., near the banks of the Housatonic River and surrounded by the Berkshire Hills, of whose summer gayeties and glories so much has been said and sung, there is a charmingly made nest of neat and tastefully appointed greenhouses, inside of which no signs of winter's reign are at hand, notwithstanding the fact that bleak winds sometimes blow and merciless thermometers plentifully abound all around them.

These are the treasured possessions of Mr. De Witt S. Smith, of the celebrated Smith Paper Company firm of paper-makers, which contain some of the most precious of his household gods. Mr. and Mrs. Smith being extravagantly fond of flowers, both spend freely of their time, and of their abundance of this world's goods as well, in the work of flower cultivation. The cluster of some half-dozen greenhouses, which in their conduct and management afford his family, his friends, and himself so much exquisite enjoyment throughout the entire year, but more especially in the winter season, are marvels of neatness throughout. The choicest of flowers have here been in full bloom during all the days of the passing winter. Roses have come and gone and are coming still, in great profusion; bushes of Heliotrope have laden the air with their delicate perfume; Pinks of white, of red, and variegated hues have drooped low in their budding and blossoming beauties; Azaleas spread out their snow-white presence and flaming brilliance; Cyclamens, with their rich and rare shadings, claim close attention; Cinerarias, in their deep-dyed perfection of color and flower, thrive and throw off their brilliant glories among their closely packed neighbors. Abutilons, Fuchsias, Geraniums, Primroses, Begonias, Mahernias, and so on to the end of the chapter, blossom in beds fringed with Sweet Alyssum, carpeted beneath with thriftily grown Lycopodium, through which the walks and ways are beautiful indeed.

But the crowning glory of the place is the fine collection of Orchids—one of the finest in the country. In the cultivation of these Mr. Smith has been very successful, and it may well be so, as they are the special pride and pets of both heads of the family. The East Indies, Central and South America, and wide reaches of country encompassing many tropical localities and including high reaches of the Andes as well, have been laid under contribution and drawn upon with a liberal hand, in the ingathering work of collecting choice specimens of Orchids. A novice in Orchid cultivation upon looking at the ungainly branches, which in many instances look more like dried and barkless tree-limbs, or like coarse and thickly jointed reeds, would be quite likely to toss them out of the window or into the fire, as being unfit for preservation or worthy of notice, even. But if that novice will stroll through the narrow pathways of the Lee greenhouses, in February or March, he or she will have an opportunity to see a wealth of floral brilliance and beauty swinging from these ungainly stems, not soon to be forgotten.

Mr. Smith has over two hundred different species of Orchids, and has had one hundred and seventy of these in beautiful bloom at one time. From the first of October until the first of May, these floral beauties are to be seen in more or less profusion; but the height of the season is compressed into the six or eight weeks which take the heart out of the days of February and March.

All the best and most beautiful species are well represented, and at the time of our visit there were in flower *Cattleya Exoniensis, labiata, Percivalliana, speciosissima, Trianei, Warscewiczii delicata*, and *virginalis; Cypripedium Harrissianum, insigne*, with two hundred and thirty-seven flowers; *villosum; Dendrobium Ainsworthii, biggibum, chrysotoxum, crassinodum, Barberianum, Japonicum, nobile, n. cærulescens*, with two hundred flowers at one time; *Wallichi*, with one hundred and sixty-seven flowers; *Pierardi, giganteum, thyrsiflorum, Wardianum; Lælia albida, L. anceps*, with one hundred flowers, and *L. autumnalis*, with fifty-six flowers; *Masderallia Veitchiana, Odontoglossum Alexandræ, Bictoniense, grande, cordatum, gloriosum, odoratum, Pescatorei, roseum, Rossi majus, triumphans; Oncidium papilio majus; Phalænopsis amabilis, grandiflora, Schilleriana; Vanda cærulescens.*

But why attempt to enumerate? A well-filled catalogue could only give all the titles of the many beautiful specimens of the plants of this collection. A written description of their specific beauties would be impossible; words may not describe the delicacy of color, exquisite shadings, and singular forms of the flowers, but personal study of these, of a brief hour even, will tell to a lover of the marvelous and the beautiful, in the floral world, how firm a hold they may soon get upon the affections. It is well worth the going of many and many a mile to see such a rare exhibition of beautiful flowers as are to be found in the cluster of greenhouses nestled so picturesquely down on the banks of the Housatonic River, in the bustling village of Lee, surrounded by the far-famed Berkshire Hills. And these hills, though full of sublimity and grandeur, both in summer and winter, have nothing more exquisitely beautiful, more fascinating to the eye, than this rare collection of Orchids, which a half day proved all too short to appreciatively look upon and admire.

CLARK W. BRYAN.

HOPS AND THEIR CULTURE.

Any land suitable for growing Corn is adapted to Hops, but it should not be so low as to be overflowed or liable to have the water settle in pools on it. The ground should be prepared for the Hops by thorough plowing and harrowing as soon in the spring as it will admit. After plowing and harrowing, it should be marked out into furrows seven by eight feet apart. At these crosses the Hops should be planted. Two sets in a hill are ample if they are strong, but more are generally put in, in order to insure a good hill. The sets should be covered an inch and a half deep, and the ground pressed firmly down over them. Each set contains two eyes, and they are cut from three to five inches long. They should be cut with a straight and smooth cut, so as not to split the ends, or they will not grow.

Between the hills of Hops each way, a hill of Corn or Potatoes may be planted the first year, and both should be well cultivated, and the ground kept mellow, and the Hop hills entirely free from all weeds and grass. In the fall, before freezing, two shovelsful of fine manure should be placed on the top of each hill of Hops. Too much manure causes a tendency to blight.

The second spring, the spaces between the rows of Hops should be plowed—plowing away from the hills. The space left, after the plow has turned over as much of the ground as it can, must be raked over, or forked over, and the manure worked into the ground. Thorough cultivation must be kept up during the summer. Before the vines begin to run, two poles should be set sixteen inches deep into each hill, and the vines as they make growth must be tied to these poles; two vines are enough for each pole. They should be gone over every few days, and when the vines get out of reach it is easiest to tie them sitting on horseback; unless securely tied they will not do well. Rushes and yarn are used for tying. The poles should be from eighteen to twenty-two feet long, and cost all the way from four to sixteen cents each. Cedar are the best.

When the seeds are brown and the Hop opens rich with yellow dust or pollen, is the time to begin picking. They are picked mostly by children, for five cents a bushel, without board. An average picking is from two to three boxes of eight bushels. The Hops are carried from the field in sacks, and spread on cloths over slats in the dry-house, where a fire is kept up in a stove. In twelve or sixteen hours they will be dry enough to store in the hop-room. A damp day is best for pressing, which is done by hand or otherwise, in bales of two hundred pounds.

The third year after planting, the hills must be raked over and the sprouts, called sets, must be removed. One hill will produce about four quarts of sets on the average. These sets sell by the bushel for planting new yards, a bushel being rated at twenty-two pounds. The price varies according to the supply from fifty cents to ten dollars per bushel. The coming season they will be high, on account of the extreme dry weather last year and the large demand. It costs, all told, not less than two hundred dollars an acre to get the first crop of Hops. The yield runs all the way from four to twelve hundred pounds an acre, the average being about eight hundred pounds.

There are other modes of stringing Hops besides on poles. One good mode is to stretch wires from poles on the outside of the field, with resting poles between, and train the vines on wires reaching from a small post in the hill to the main wire above.

There is no crop which repays careful culture more than Hops, and there is nothing better adapted to grow in out-of-the-way places, along fences and in garden corners. In such places a hill of Hops may be planted, and by digging in manure every year it will grow for a life-time, and produce a good crop. Grass will run them out, and this must be kept from the hill. Hops may be trained on fences, and do well. They like the sunlight, and on this account do not produce well, trained on trees. In several counties in New-York—Montgomery, Schoharie, Otsego, Madison, and Oneida—Hops are a leading and profitable industry,

F. D. Curtis.

Horticultural Societies.

NEW-YORK HORTICULTURAL SOCIETY.

MARCH MEETING.

Never were the comforts of home more warmly appreciated and thoroughly enjoyed than they were at the last meeting of the Society in its new hall, by the members, who, in spite of the most terrific snow-storm of the season, turned out *en masse* to greet each other and welcome their friends. The members now feel that in bringing in their choice plants for exhibition they decorate their *own homes* as well; consequently they are far more lavish in their gifts, and seemingly less interested in carrying off the prizes; and it is a better indication of the Society's health and permanent prosperity to have its members more eager to make an exhibit than to make money. It makes them also more contented, social, and good-natured when they are thus freely contributing their floral treasures for the public good. A most gratifying feature at these exhibitions, and one which becomes gradually more and more apparent, is the interest taken in them by amateurs. Nearly one-half of the exhibits seem to have been made by non-professionals.

Notwithstanding the extremely discouraging weather the exhibition was nearly equal to the best the Society has ever held. The display of Roses, both cut and in pots, was simply grand and an important feature of the exhibition. We have never seen finer Maréchal Niels, Niphetos, Cornelia Cooks, Perle des Jardins, General Jacqueminots, Bon Silenes, Gloires de Paris, Baroness Rothschilds, and Souvenirs de la Malmaison, on exhibition, and what may be said of these may also be said of many other varieties on the tables. There were several rival collections of cut flowers, both amateur and professional, containing objects of great interest, and which elicited much praise. The lovers of Orchids had a grand feast over some handsome specimens of Dendrobiums, Lælias, and Phalænopsis. Among the latter was a fine plant of *Schilleriana*, a rare variety, in perfection of bloom. The owners of these plants deserve great credit for bringing them out on such an unfavorable day.

An attractive feature of the exhibition were twelve magnificent plants of Azaleas; finer varieties, or plants better furnished with bloom, we have never met. We believe they were from the establishment of Mr. Keller, at Bay Ridge, one of our most successful growers of that class of plants. Especially noticeable was also a collection of Cinerarias, from Mr. P. E. Cope, that for size, and vigor of plants, variety and intensity of color and markings of the flowers excelled, probably, anything ever before exhibited in this line in this country.

Well grown Lilacs, in pots, very dwarf, and a complete mass of bloom, were conspicuous objects. Among the other entries were Hyacinths in variety, Lily of the Valley; Primulas, Carnations, old and new varieties; Pansies of extraordinary size and brilliant colors. There were also on the tables some forced Cauliflowers, Cucumbers, and Mushrooms and a remarkably well preserved dish of Vicar of Wakefield Pears.

The essayist of the day, Mr. John Thorpe, our esteemed correspondent and well known horticulturist, presented a valuable paper on "Window Gardening," which was ordered to be printed in full in the transactions. We notice, with pleasure, the greatly improved appearance and general style of the last monthly report just received. Mr. Murkland, the indefatigable secretary, seems constantly on the alert to prepare pleasant surprises for the members of the Society and to labor for their best interests.

The next exhibition will be held at Horticultural Hall, 26 and 28 West Twenty-eighth street, near Broadway, on April 3d, at 2 P. M., and promises to be of unusual interest. Mr. Charles Parnell, favorably known to our readers, will read a paper on Lawns, their formation and management.

THE MISSISSIPPI VALLEY HORTICULTURAL SOCIETY.

The recent meeting at New Orleans proved in every way a grand success, surpassing in many respects all meetings of the kind ever held in America. The motion to extend the scope of the society so as to make it national was lost, and probably for the good of all concerned. Our country is too large, its interests are too varying, and national organizations too unwieldy for successful management. The American Pomological Society—a notable exception—owes its great usefulness principally to the excellent plan of subdivision into States, an arrangement which is not practicable in a society devoted to all horticultural interests. The Mississippi Valley Horticultural Society cannot promote its noble aim better than by following its so gloriously commenced course. But there is room for an *Atlantic Coast Horticultural Society*, comprising all the States east of the territory occupied by the Mississippi Valley Horticultural Society, and also for another, comprising all the Pacific States. The amount of practical and substantial benefit that might be rendered by these three societies would be infinitely greater than anything that could be accomplished by a national organization.

HINTS.

An ounce of practice is worth a pound of theory. Our monthly hints are based on this precept, and, as the results of actual experience, can be relied upon as safe and correct.

FREE TO EVERY SUBSCRIBER.

Our Premium list contains some of the choicest novelties in the Horticultural line, which are offered FREE to every subscriber. Send for it.

OUR EXHIBITION TABLE.

Pansies and Cinerarias.—*Mr. P. E. Cope* exhibits an exquisite collection of Cinerarias and Seedling Pansies; some of the latter were as large and perfect in color as any we ever saw.

Dumesnil Fertilizing Moss.—Several healthy and vigorous plants growing in this novel medium. Although moss will hardly supersede the old-fashioned earth with the professional florist, for parlor culture it has in its favor that its use dispenses with the difficulty of obtaining proper soil; it is light and easily handled, and causes no dirt about the room; and also that, on account of its porosity, it holds moisture a long time without retaining enough to become stagnant.

BOOKS AND PAMPHLETS RECEIVED.

Education of Farmers' Children.—A paper read before the Durhamville Grange, Lauderdale County, Tenn., by *Dr. Isaac L. Case.*

The American Farmer.—An address delivered by Mr. A. W. Campbell, of Wheeling, West Virginia, before the Tri-County Agricultural Institute, held at St. Clairsville, Ohio.

Safety on Land and Sea.—Time without a watch or chronometer. Planisphere of the Stars, improved by *Dr. William F. Thoms.* Published by the author, at the Nautical School, 92 Madison street, New-York.

Corn and Potato Manual.—*J. C. Vaughan, Chicago, Ill.*—A neat pamphlet, containing a large amount of useful and interesting information in regard to the history, culture, management, and statistics of these important crops.

Silk Culture.—A Monthly Magazine of Home Industries for Women; published by W. B. Smith & Co., New-York, at $1 a year. The initial number of this neat and well gotten-up publication is before us. It is full of interesting information of value to all interested in silk culture, and promises well for its deserved success.

Flax Culture, for the Seed and the Fibre, in the United States, with special reference to the States west of Pennsylvania, by *Mr. H. Koelkenbeck.* Published by Hiram Sibley & Co., Rochester, N. Y. The pamphlet gives full particulars on cultivation, seed, and saving the crop, as well as the author's views how this valuable crop may be saved and the flax industry built up in America.

Grain and Farm Seeds Manual. Published by *Hiram Sibley & Co.*, Rochester, N. Y.—An illustrated pamphlet of eighty-eight pages, giving descriptions of all the standard and many new varieties of cereals, root-crops, fodder-plants, etc., grown under field culture North and South. It contains, also, valuable essays on the history of Corn and the Potato, by Dr. E. L. Sturtevant; on Grasses, by Professor W. J. Beal; on Wheat and Corn culture, by B. F. Johnson.

New and Rare Fruits in 1882.—Mr. W. C. Barry's, Secretary of the Native Fruit Committee, report to the Western New-York Horticultural Society: The year 1882 has been full of interest to fruit-growers and horticultural experimenters, in consequence of the large number of new fruits which have been on trial. All the novelties brought before the public during the year are here carefully and impartially reviewed, and although another or several years' experience will be necessary to determine the definite value of many of them, this report serves as a most reliable guide to all who desire to make a selection of the most promising or most valuable new fruits.

How to Feed the Baby, to make it healthy and happy. With Health Hints. By *C. E. Page, M. D.* Third edition, revised and enlarged. 160 pages. Paper, 50 cents; extra cloth, 75 cents. New-York: *Fowler & Wells,* publishers, 753 Broadway. The author, who has made the study of infant dietetics a specialty for many years, gives here the results of his own and others' experience as to the most rational and healthful mode of nursing, feeding, and bringing up children. The leading positions are sound and based upon the unbending laws of life and death. Although, of course, modifications will be required in individual cases, no intelligent mother can read the pages of this work without benefit to her child and to her own comfort and happiness. It is safe to say that, in proportion as the book is circulated and its teachings are followed, will the rate of infant mortality decrease.

CATALOGUES RECEIVED.

J. H. Walker, *Worcester, Mass.*—Catalogue of Jersey Cattle, comprising the Crystal Spring Herd.

Jesse Battey, *Manchester, N. J.*—Descriptive Circular of the Manchester Strawberry, originated by Mr. Battey.

Jenkins's Nurseries, *Winona, Ohio.*—Spring Price-list of general Nursery Stock. Evergreen Seedlings and young transplanted Evergreens are the leading specialty, in addition to several novelties and superior sorts of small fruits.

Woods, Beach & Co., *New Brighton, Pa.*—Illustrated and descriptive catalogue of Roses, with valuable directions for their culture. Also a general assortment of florists' and bedding plants.

E. D. Sturtevant, *Bordentown, N. J.*—Catalogue of rare Water-Lilies and other choice Aquatic Plants. This is a most interesting pamphlet to any one contemplating the cultivation of these interesting plants, giving, in addition to careful descriptions of the best kinds, valuable hints about their culture.

F. R. Pierson, *Tarrytown, N. Y.*—Catalogue of Plants and Garden Supplies. A large collection of greenhouse, bedding, and small fruit plants. The new Coleus Golden Bedder is a specialty of this establishment, as well as the "Bermuda Easter Lily," in the introduction of which Mr. Pierson has taken much interest.

P. J. Berckmans, *Augusta, Ga.*—Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, Roses, Evergreens, Hardy Flowering Plants, etc., etc. This catalogue contains, in addition to the completest list of varieties suitable for the South found anywhere, valuable directions for planting and cultivation, which, coming from one of the most experienced horticulturists in our land, may be followed with confidence.

Woolson & Co., *Passaic, N. J.*—Catalogue of Hardy Perennial Plants, Bulbs, Ferns and Climbers. This establishment makes a specialty of hardy plants, correctly named, and cultivates a larger and better collection than is to be found anywhere else in America. The silver medal of the Massachusetts Horticulture Society has just been awarded to the firm for their magnificent exhibit of new Hybrid Narcissus.

Sedgwick Bros., *Richmond, Indiana.*—Descriptive Illustrated Catalogue of their celebrated Wire Fences, Gates, &c. These fences and wire net-works, which combine neatness of appearance with great strength and durability, are now, by the use of special machinery, produced so cheaply as to offer great advantages, not only as farm and garden fences, but also for arbors, trellises, flower beds, and various ornamental purposes.

V. H. Hallock, Son, & Thorpe, *Queens, N. Y.*—Illustrated Catalogue of Plants, Bulbs, Small Fruits, etc. Lilies and Gladiolus have long been made specialties of this firm, and the completeness and variety of their collections are not excelled by any other establishment in this country. Carnations, Geraniums, and other flowers and plants are also among the specialties, and, with the addition of small fruits, made lately, their assortment is one of the completest found anywhere.

E. P. Roe, *Cornwall-on-the-Hudson, N. Y.*—Catalogue of Small Fruits and Grape-Vines. One of the choicest collections of small fruits in the country. Mr. Roe takes special care to keep up the purity of his stock, and his sample beds have a world-wide reputation. The pamphlet contains in addition to descriptions and illustrations of the leading varieties, valuable directions for their culture.

ANSWERS TO CORRESPONDENTS.

Removing Old Paint.—*A. P.*—To the inquiry of "How to remove old paint from stone," Mr. B. Hammond, of the Mount Kisco, N. Y., Paint Works, replies: "Old paint can be removed from stones, but the expense and labor would probably be so great as to preclude the attempt. It would have to be burned off, as old paint is taken off railroad coaches and carriages, then rubbed and cleaned with spirits or hot lye, to thoroughly cleanse the stone."

White Grubs.—*W. D., Norristown, Pa.*—There is no prevention against this pest, except to kill all the May beetles, which is easier said than done. Ground that has been in grass, or any permanent crop, as Strawberries, for several years, is always more infested with grubs than cultivated land. After plowing and tilling for two or three years, few grubs will be found. The January number of THE AMERICAN GARDEN has an exhaustive article on this subject.

Libonia floribunda.—*Mrs. P., London, Ont.*—This interesting winter-flowering plant requires treatment similar to the Calla. It should be planted in rich loam, and when growing, exposed to full light. It requires plenty of water, with an occasional application of liquid manure. If allowed to suffer for water, it drops its leaves and refuses to bloom. After its season of growth, water should not be given so freely for three to four weeks.

Grafting Cactus.—*L. P., Fox Lake, Wis.*—Most, and perhaps all, species of Cactus can be grafted upon each other. The process is very simple, and consists simply in inserting and fastening a small branch of the kind to be grafted into a split made into the stock, as in wedge-grafting of trees. Weak and low-growing species are generally grafted upon more vigorous ones, yet large, round Echinocactus may be grafted upon slender Cereus, if supported by a frame.

Diseased Ivy.—*L. R. D., Great Bend, Pa.*—Your plant is affected with *Scale*, the most insidious enemy of Ivy grown in the house. There is no better remedy than frequent washing with soap-water. All the leaves should be well rubbed or brushed with the suds, and afterward washed off again with clean water. These washings must be repeated every few days until every one of the small, brownish, blister-like excrescences — the houses of the parasites — are removed. As long as a single one is left the plants will soon become overrun again.

About Yuccas.—*J. C., Brooklyn, N. Y.*—The following letter is so instructive, and illustrates so well the cause of innumerable failures in the propagation of plants, that we print it in full:

"Last January, on coming back from Florida, I brought with me a cutting of a species of *Yucca*, known in the South as 'Spanish bayonet.' The plant, I was told, is a very robust one; and so it proved, for it was thrown in a corner of the yard for three weeks in Jacksonville, simply covered with the indigenous white sand, then rather carelessly packed in a box, with a little damp moss. It remained all the time quite green and healthy. On reaching Brooklyn I placed the cutting in a box, with rather rich soil from the garden, and kept it in the window; but now my trouble began. The leaves shortly turned yellow, and my Yucca looked very sick. Then I happened to look over the January number of THE AMERICAN GARDEN, and noticed, on page 7, an article on the Yuccas and their cultivation. This was a ray of light I immediately unpotted my plant, and found the lower end decaying. I at once cut off everything unsound, sent to the nearest grocer for white sand, which, after washing, I mixed with about one-sixth of garden soil, and in this replanted my Yucca. This was six weeks ago. Since then my plant has been thriving and growing beautifully. Can you tell me in your next number what care it should have next spring?"

All plants are best propagated in sand; rich soil can only injure slips and cuttings, as they cannot absorb the nourishment; it is like giving rich food to a dyspeptic. After roots have been formed and growth begins, richer soil and more water may be given in proportion to the activity of the plant,—just as we vary the rations of working animals according to the amount of work they are required to do.

The plant, which is probably *Yucca gloriosa*, should be placed outdoors in summer, with the pot, and should not be transplanted until the pot becomes entirely filled with roots. As long as it grows vigorously it should be watered freely. In winter it may be kept in the cellar or a cool room, free from frost, withholding water altogether, or at least giving not more than to keep it from shriveling. Under no consideration should it be kept continually growing. Plants need rest as much as we do.

The United States Mutual Accident Association is now occupying its new quarters at 320 and 322 Broadway, New-York. The growth and increase of business of this well-known and reliable institution made the removal a necessity. The new offices are among the largest and handsomest on Broadway, and are well worth a visit.

A GARDENER'S ASSISTANT.

Winter lingers in the lap of Spring so long that it must find it a comfortable resting place. Nevertheless, it gives every one plenty of time to make all necessary arrangements for the garden, so that when spring is finally released no time need be lost in making plans. What better assistant can you have than THE AMERICAN GARDEN? If you are not a subscriber, why not send in your subscription now? If you are a member of the happy "Garden family," kindly tell your neighbor what a feast of horticultural delicacies there is in store for him if he subscribes for THE AMERICAN GARDEN.

CAMELLIAS IN ALABAMA.

Alabama seems to top the climax in Camellias. A. S. Strout writes from Butler county: "If the Camellia, six feet high and about the same breadth, growing in Santa Barbara, California, and described in the last AMERICAN GARDEN, is considered a magnificent specimen, I think we can carry off the prize. I measured a Camellia to-day, growing in the garden of Dr. Steiner, which is thirteen feet high and ten feet in breadth, and as for buds, they could be measured by the bushel easier than by count. I am satisfied, however, that there were more than ten thousand buds on it this winter. We have other fine shrubs growing here, but none quite equal to this Camellia."

LIVE ISSUES, NOT DEAD ONES!

THE AMERICAN GARDEN endeavors to keep its readers posted on all the novelties of the day, and does not trouble its readers with the "novelties" of the past generation, except in cases where the old are better than the new.

DON'T BE AFRAID.

If you are afraid that THE AMERICAN GARDEN will disappoint you, send twenty-five cents and we will send it to you for three months. This will introduce the paper to you. If you like it, you can remit seventy-five cents to complete the year, and then receive the premium to which you are entitled as a yearly subscriber.

MINNEAPOLIS, MINN., February 15, 1883.

JAMES R. PITCHER, ESQ., *Secretary United States Mutual Accident Association*, 409 Broadway, New-York:

DEAR SIR: Permit me to acknowledge the receipt of draft for Five Thousand Dollars in payment of my husband's policy.

Please accept my earnest thanks for your prompt payment of the same.

Very truly yours,
MRS. R. S. LEE.

MAROA, ILL., February 20, 1883.

JAMES R. PITCHER, ESQ., *Secretary United States Mutual Accident Association, New-York:*

DEAR SIR: I am this day in receipt of draft of Five Thousand Dollars from you, in full payment of claim that I, as beneficiary of Judson J. Hough, held against the United States Mutual Accident Association, of New-York.—

Please accept my thanks for the very prompt and satisfactory manner in which you have paid this claim.

I shall always be glad to hear of the success of the "United States Mutual," and hope that others may be led to protect their dear ones while it is not too late. Very truly yours,
MRS. HATTIE E. HOUGH.

PREMIUM LIST.

Encouraged by the great success of our premiums sent out in previous years, and desirous to introduce THE AMERICAN GARDEN into every home, we offer special and most liberal inducements for the coming year.

All articles offered are of actual merit, and first class in every respect. Several of them are now introduced for the first time. Application for premiums should be made at the time of sending the subscriptions.

All premiums offered by mail will be sent post-paid. Those not offered by mail will be sent by express or freight, the receiver in all cases to pay transportation charges.

EVERY SUBSCRIBER for 1883, old or new, is entitled to ONE PREMIUM, members of clubs receiving clubbing Premiums excepted, and may take his or her choice of either of the following articles:

SEEDS.

ONE PACKAGE OF EITHER OF THE FOLLOWING VARIETIES:

American Triumph Oats.
Adamant Wheat.
Green Mountain Wheat.
} *With the privilege of competing for the $210 offered as premiums for the largest yields.* (See advertisement.)

$1,000 CORNS.

Rural Dent.—Produced at the rate of one hundred and fifty bushels per acre in 1882.

Rural Thoroughbred Flint.—Ears measuring eighteen inches produced in 1882. (See advertisement.)

Bliss's American Wonder Peas, the best and earliest Pea grown.

American Racer Pea.—Very productive. Best round Pea grown.

Mayflower Tomato.—Very early; fine.

Wild Garden Seeds.—A mixture of about one hundred varieties of Flower Seeds, enough to sow a square rod of ground.

Subscribers who prefer making their own selection of seeds can select from B. K. Bliss & Sons' Hand-Book for the Farm and Garden (34 Barclay street, New-York. Mailed for six cents).

Seeds to the amount of 25 cents for each subscription.

PLANTS.

ONE OF EITHER OF THE FOLLOWING:

Clematis Coccinea.—Scarlet Clematis. A root of this magnificent new climber, a beautiful colored plate and a description of which appears in our September number.

One Bulb of Gladiolus Shakespeare; the best white variety.

One Bulb of Gladiolus Isaac Buchanan; the best yellow variety.

Three Bulbs of selected American **Seedling Gladiolus;** all different colors.

One Bulb of either Lilium speciosum rubrum, L. sp. roseum, L. tenuifolium, or L. atrosanguineum grandiflorum.

One Bulb of Hyacinthus candicans.

FOR TWO SUBSCRIBERS.

A Bulb of Lilium Harrisii—the Lily—the most exquisite novelty in this class.

BOOKS.

Any one subscribing for THE AMERICAN GARDEN, and soliciting other subscriptions, may obtain a *Library free*, under the following conditions:

For each subscriber, he may select, from the special list contained in B. K. Bliss & Sons' Catalogue, books to the amount of 20 cents. Special list of books mailed free on application.

The New American Dictionary.—(See Advt.) One thousand illustrations. A valuable Dictionary and Encyclopedia combined. Price, $1.00. Sent free as a premium for four subscriptions at $1.00 each: or mailed post-paid, on receipt of price.

PREMIUMS FOR LADIES.

The Housekeeper's Set.—Twenty Good Kitchen Utensils. Price, $1.00. Sent by mail, post-paid, for three subscribers at $1.00 each; or will be mailed post-paid, on receipt of price.

Ladies and Children's Floral Sets of four pieces; small size, just the thing to work with among your plants. Price, $1.50. Sent by mail, post-paid, for three subscribers at $1.00 each; or mailed, post-paid, on receipt of price.

Excelsior Hand-Weeder.—Price, 30 cents. Closely resembling the human hand (which is the best weeder made). Sent, post-paid, for two subscribers at $1.00 each; or mailed, post-paid, on receipt of price.

Elastic Plant Sprinkler, for watering house-plants. Price, $1.25. Mailed, post-paid, for four subscribers at $1.00 each; or on receipt of price.

Ever-Ready Fountain-Pen.—A gold pen with hard rubber handle containing the ink. Writes twenty-four hours with one filling. Always ready for immediate use. The best fountain-pen we have ever seen. Price, $4.00. Mailed, post-paid, as a premium for twelve subscribers at $1.00 each; or on receipt of price.

Gem Soldering-Casket.—Always handy to have about the house to mend leaks, etc. Price, $1.16. Mailed, post-paid, for four subscribers at $1.00 each; or on receipt of $1.16.

Wilcox & Gibbs' Sewing Machine.—Too well known to require any description. Price, $60 for No. 2 Machine. Sent as a premium for a club of one hundred subscribers at $1.00 each.

IMPLEMENTS FOR THE GARDEN AND FARM.

N. B. Descriptive circulars of any of these mailed free on application.

Randolph's Hand Seed Sower, for sowing all kinds of small garden seeds with accuracy and dispatch. Easily operated by a lady or child. Price, $1.50. It will be mailed, post-paid, as a premium for 3 subscribers at $1.00 each; or will be mailed, post-paid, on receipt of price.

Comstock's Seed Sower and Cultivator Combined, for general garden purposes. (See advt.) Can be used either as a Sower or Cultivator. Price, $12.00. It will be sent as a premium for a club of 24 subscribers at $1.00 each; or sent on receipt of price, receiver to pay transportation charges.

New York Seed Drill. (See Advt.) Very simple, compact, and easy to handle. Price, $12.00. Sent as a premium for 28 subscribers at $1.00 each; or on receipt of price, receiver to pay transportation expenses in either case.

Planet, Jr's., Double Wheel Hoe and Seed Sower Combined, or separate. (See advt.) Excellent implements; always give satisfaction. Prices: Wheel Hoe alone, $10.00. Sent as a premium for 25 subscribers at $1.00 each. Combined machine, $14.00. Sent as a premium for 36 subscribers at $1.00 each; or on receipt of price. Receiver pays transportation charges in either case.

Philadelphia Broad-Cast Seed Sower. Hand machine, price $6.00. Power machine, $30.00, for sowing evenly Grass, Grain, Fertilizers, etc. We will send the Hand machine for a club of 12 subscribers at $1.00 each, or the power machine for 50 subscribers at $1.00 each; or we will send on receipt of price. Receiver to pay transportation charges.

What will the weather be to-morrow? Pool's Signal Service Barometer will tell you. Price, $1.00. Mailed, post-paid, for 3 subscribers at $1.00 each; or mailed on receipt of price.

Isbell Mole Trap will exterminate your moles. Price, by mail, $2.50. Mailed, post-paid, for 8 subscribers at $1.00 each; or on receipt of price.

Perfection Lawn Sprinkler, for watering lawns. Price, $1.40; mailed, post-paid, for 5 subscribers at $1.00 each; or on receipt of price.

Lawn Mowers. Excelsior, roller or side-wheel, 14-inch cut, the most useful size; an excellent machine. Price, $17.00, offered as a premium for a club of 36 subscribers at $1.00 each; or sent on receipt of price. In either case receiver pays transportation charges.

Lawn Mowers. The Daisy. 12-inch cut; the best size for ladies' and children's use. Price, $11.00. Sent as a premium for a club of 30 subscribers at $1.00 each, or on receipt of price. In either case the receiver pays transportation charges.

Syracuse Chilled Plow.—Very light draft, durable, not easily bent nor broken, adjustable handles, etc. Prices from $7.50 to $18.00, according to pattern. Sent as premiums for clubs of fifteen to forty subscribers at $1.00 each, as follows: You can select such as you wish from their circular, multiply the price by two, and it will give you the number of subscribers; thus a $10 plow would require a club of twenty subscribers, etc.

Adamant Plow.—Hard metal, adjustable beams, light draft, slip shares. Prices from $5 to $15, according to size and extras required. To ascertain the number of subscribers necessary to secure any pattern, multiply the price by two; thus a $10 plow sent as premium requires a club of twenty subscribers at $1.00 each, etc.

Sackett Pulverizing Plow.—Cuts and thoroughly pulverizes, 10½ to 14 inches wide. Price, two-horse size, $80; three-horse, $85. Sent as a premium for one hundred and sixty subscribers at $1.00 each, or on receipt of price.

Acme Pulverizing Harrow, Clod-crusher and Leveler. (See advertisement.) No. 6. Price, $25. Sent as a premium for a club of sixty subscribers at $1.00 each.

Cycle Ensilage Cutter. (See advertisement.) Price, $50. Sent as a premium for a club of one hundred subscribers at $1.00 each, or on receipt of price.

Randolph's Fertilizer Distributer, for depositing all kind of fertilizers used in hill crops, without its coming in contact with the hands. Price, $5.00. Sent as a premium for twelve subscribers at $1.00 each, or sent on receipt of price; in either case the receiver pays transportation charges.

Kemp's Manure Spreader, Pulverizer, and Cart Combined. (See advertisement.) Spreads evenly all kinds of manure broadcast or in drill, in one-tenth the time required by hand. A most valuable labor-saving implement. Price, $110. Sent as a premium for a club of two hundred subscribers at $1.00 each, or on receipt of price. Receiver to pay transportation charges.

Advertising Department

VALUABLE PREMIUMS

To every Yearly Subscriber to

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Specimen Copies, free.

(January Number, with beautiful colored plate, 10 cents.)

In clubs of six for one year	$5.00
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Additional subscribers in clubs over ten, 75 cts. each.

This elegant and richly illustrated journal,

Edited by Dr. F. M. HEXAMER,

contains sixteen large pages of closely printed matter relating to the *Vegetable*, *Fruit*, and *Flower Garden*, the *Lawn*, *Greenhouse*, and *Window-Garden*, *Rural Life*, *Sanitary Improvements*, and all branches of *Horticulture* in its various departments.

Volume IV. commences with the January number, 1883, and it is desirable that subscriptions should begin with the first number of the volume, although they may be entered at any time for a year from the date of entry.

BOUND VOLUMES.

Volumes I. II. and III. (present series) of The American Garden have been carefully indexed, convenient for ready reference, and bound together in a handsome heavy paper cover. The amount of useful, practical horticultural information contained in this combined volume cannot be obtained in any other single book, making it a most valuable addition to any library. Price $1.50, by mail, post-paid, or

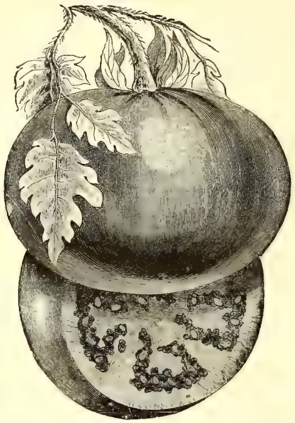
Free as a Premium

for a club of *four* at $1.00 each, without single premiums to the subscribers; or **free** to the sender of a club of *ten* at seventy-five cents each, entitling each member of the club to a premium the same as those subscribing singly. Address all orders to

B. K. BLISS & SONS, Publishers,
34 Barclay Street, New-York.

NEW EARLY TOMATO.

MAYFLOWER.



This superb variety, raised by Mr. F. H. Horsford, of Northern Vermont, in 1881, and introduced by us in the spring of 1882, has given universal satisfaction. It is the earliest large Tomato we know of; of splendid shape, perfectly smooth, of a bright red color, and ripens uniformly up to the stem. The flesh is solid, free from seeds, and of a pure, rich flavor; in productiveness it is unexcelled.

It has been awarded a premium for two successive years by the Massachusetts Horticultural Society at Boston, as the best new variety, a sufficient evidence of its superiority. **15c.** per packet; **4** packets, **50c.**

A New Early Sweet Potato.

EARLY GOLDEN.

This variety originated in Virginia a few years since, with an old cultivator of the Sweet Potato. It is a sport of the old Early Red, but said to be far superior to that variety in earliness, productiveness, color, and quality. Slips planted May 10th produced tubers large enough for the market July 25th. On account of its early maturity, it is better adapted for cultivation in the Northern States than any other variety. In shape they are somewhat shorter than the ordinary varieties, of a golden yellow color, cook very dry, and are of superior flavor. Another valuable consideration in favor of this variety is that they will grow on quite ordinary soil, with but a slight coat of manure, and yielded a large crop the past season upon land that would not grow above fifteen bushels of corn to the acre. It is also an excellent keeper. From what we can learn from those who have tested this variety, we think it will prove the most valuable in cultivation.

We first offered this variety in the spring of 1880, and have received many favorable notices from those who have tested it. It matured its crop as far north as Canada. Specimens have been exhibited weighing six pounds. Slips ready about May 15th; tubers, now.

Price of slips, with directions for planting, by mail, post-paid, 50 cents per dozen; $1.00 for fifty; $1.75 per hundred. By express, at purchaser's expense, $1.00 per hundred; $7.50 per thousand.

Price of tubers, 60 cents per pound; three pounds, $1.25, by mail. By express, at purchaser's expense, one pound, 50 cents; five pounds, $1.00; twenty pounds, $2.50; fifty pounds, $5.00.

B. K. BLISS & SONS, 34 Barclay St. N. Y.

RAISING PLANTS WITHOUT EARTH!!

The difficulty so many people have in procuring proper soil for their Pot Plants

IS ENTIRELY OBVIATED BY USING

DUMESNIL FERTILIZING MOSS
PLANTS WITHOUT EARTH
PALMAM QUI MERUIT FERAT
TRADE MARK

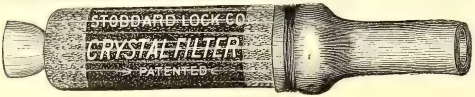
DUMESNIL FERTILIZING MOSS.

Awarded a Bronze Medal by the Massachusetts Horticultural Society, and two Bronze Medals at the American Institute Fair.

This article has met with an instant and brilliant success in Europe. We have witnessed the results of experiments made by prominent American florists, and believe we are warranted in calling the attention of our customers to it. Every one knows that even a few indoor plants cause some mess and dirt, and where many are grown, the accompanying inconveniences are just so much greater. This moss will overcome all that and many other obstacles, beside the certainty that plants grown in it, either entirely without earth or in combination with it, will be healthier in every way, and produce larger and better-colored flowers. The lightness of the moss and the limited quantity required for each plant, make its use in practice quite inexpensive. Price, 30 cents per lb. If by mail, 50 cents per lb.

Pamphlet, giving full particulars mailed free on application.

B. K. BLISS & SONS,
34 Barclay Street, N. Y.



ONE-HALF SIZE OF FILTER.

No house should be without one; also indispensable to travelers. It is a genuine FILTER, AND WILL LAST FOR MANY YEARS.

Price 50 cts. each. Mailed free.

STODDARD LOCK CO,
104 Reade St. N. Y.

Choice Named Gladioluses.

The following new varieties, which we now offer at greatly reduced prices, are considered the most beautiful and gorgeous Gladioluses ever introduced. By combining them in the following collections, we are able to furnish them at extremely low rates. No change or substitution can be made at these prices, nor can collections be broken:

Special collection not broken at price quoted.

Collection A. Marie Lemoine, La Landeur, Baroness Burdett-Coutts, Africaine. $2.00.

— **B.** Shakespeare, Meyerbeer, Engesseri, Isaac Buchanan. $1.00.

— **C.** Eugene Scribe, Angele, Froebeli, Mad. Monneret, Ceres, Sylphide. $1.00.

— **D.** Ten good named sorts. $1.00.

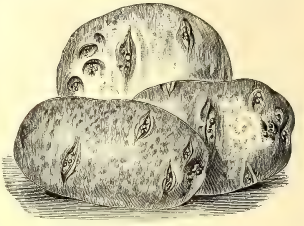
— **E.** Marie Lemoine, Lemoinei, Engesseri, Froebeli, Byzantinus, The Bride, Purpureo-auratus. $2.00.

Collections of Unnamed Gladioluses.

The following collections are made up from many of the named varieties whose names have been lost or mislaid, and from French and American hybridized seedlings:

Collection I. 12 fine varieties, white ground. $1.
— **J.** 12 fine varieties, rosy and red ground. 75c.
— **K.** 12 fine varieties, yellow and light ground. $1.
— **L.** 12 fine varieties, fine mixed hybrids. 75c.

Fine mixed varieties for bedding purposes, 75 cents per dozen; $2.50 for fifty; $4.00 per hundred; $30.00 per thousand.



New Varieties Potatoes.

Rosy Morn, **Rubicund,** **Tyrian Purple.**

Choice Varieties of 1882, etc.

White Star, **Queen of the Valley,**
Vermont Champion, **Matchless,**
American Giant, **Adirondack, etc.**

For description and price of the above, send for our Illustrated Potato Catalogue, 48 pages, which contains an illustrated list of the leading varieties in cultivation, with much useful information upon their culture. Mailed to all applicants inclosing 10 cents. Regular customers free.

NEW EARLY TOBACCO.

GENERAL GRANT.

The earliest Tobacco in cultivation, particularly adapted for growing in the Northern States. Last summer it produced leaves 44 inches in length, of proportionate breadth, and matured its crop perfectly, as far north as Duluth, Minnesota. The leaf has extremely small veins, is of the finest possible texture, and very elastic. One of the best judges of Tobacco in New-York City pronounces it an exceedingly promising variety, and an old Connecticut Valley grower says it is the choicest as well as the earliest sort he has seen. Directions for cultivation and curing sent with each packet. Price, 25 cents per packet; 75c. per oz.

Randolph's Hand Seed-Sower.

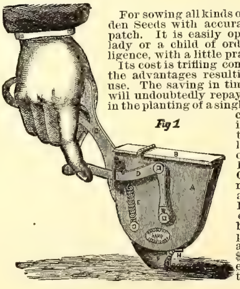


Fig 1

For sowing all kinds of small Garden Seeds with accuracy and dispatch. It is easily operated by a lady or a child of ordinary intelligence, with a little practice.

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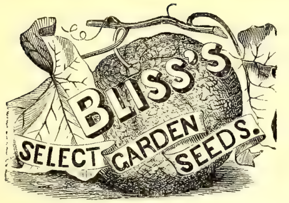

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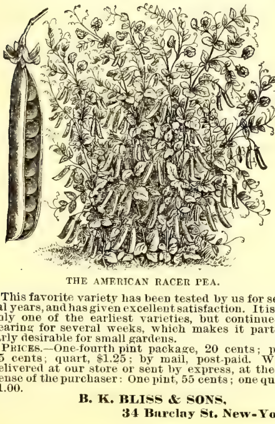

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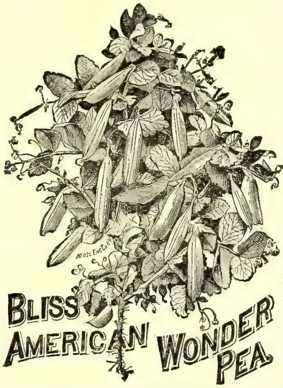

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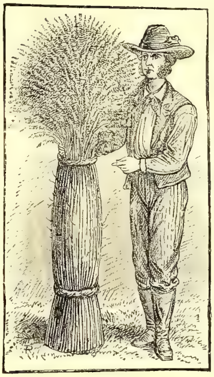

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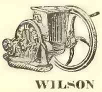

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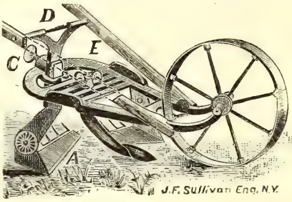

It will do the work of 8 men with the common hoe. Embraces all points requisite to make a capital tool. The Handles can be raised to suit. Knife-blades set to any pitch, and from 7 to 16 inches in width, and when in working order is firm and strong, with nothing to become loose or shaky. This implement has not only given entire satisfaction, but is pronounced unequaled by all who have given it a fair trial. For the interest of all we can safely say that no one will ever regret having given it a thorough trial. For Onions, Carrots, Beets, and all Garden Crops, it has no equal. It has in a short time become the leading Tool in this and other countries. To show our confidence in this excellent tool, we will refund price paid if satisfaction is not given with its work—purchaser paying freight to and from. Leading Gardeners and Seed Growers all use it, and would not do without it. For sale by the following:

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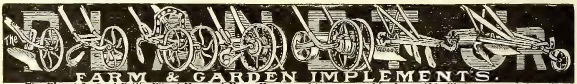

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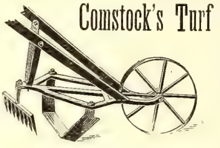

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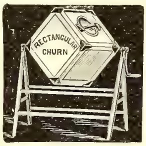

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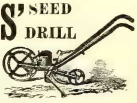

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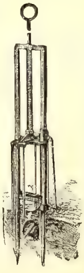

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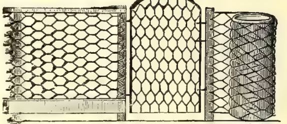

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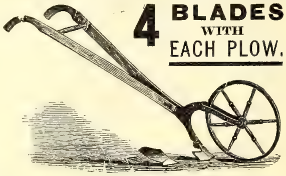

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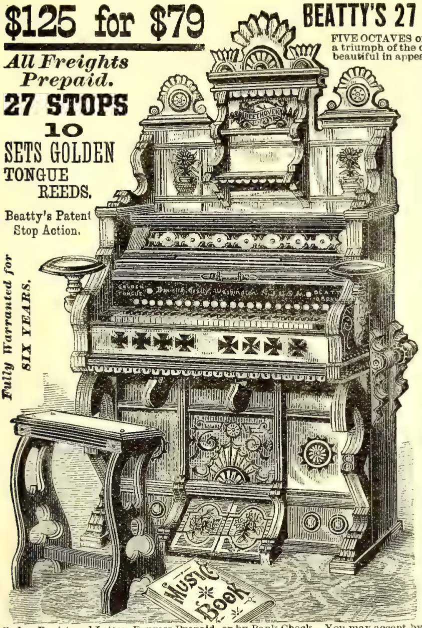

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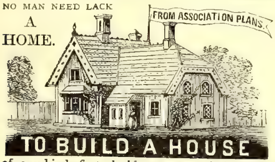

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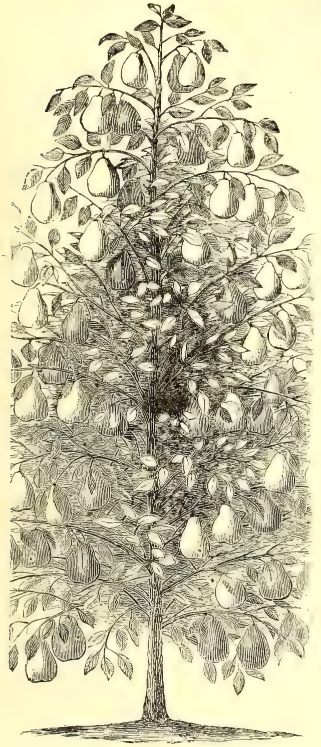

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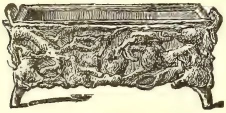

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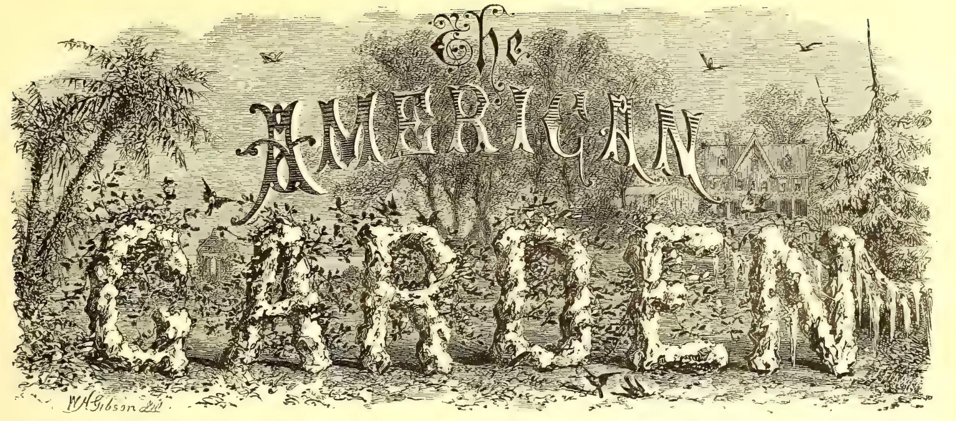

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The American Garden.

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Devoted to the Gardening Interests of America.

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THE VALUE OF FLOWERS.

Some persons are so intent upon hitting some one that they "go it blind," and do not care whether the blow falls in the right or wrong place.

This observation is suggested by the following amazing information given in a western exchange: "Most of the Roses used at the recent Vanderbilt ball were imported from the tropics, and from Spain, Algiers, and other lands, expressly for the ball, being sent when nearly matured, and started in bloom in a hot-house on the ship."

That a horticultural editor should display such gross ignorance, and should dare to offer such nonsense to his readers, is a poor compliment to their intelligence. But, even if such a procedure as this oceanic hot-house business were possible, importing Rose-buds to the American metropolis would indeed be "carrying coal to Newcastle." Any one who has advanced as far as the a b c of floriculture even knows that America produces as fine Roses as can be found anywhere, and that the extent and perfection of forcing Roses in winter, in the vicinity of New-York, is unequaled in any part of the world. The exquisite beauty and consummate perfection of the banks of *Gen. Jacqueminots*, *Baroness Rothschilds*, *Cornelia Cooks*, *Niphetos*, *Maréchal Niels*, *Catherine Mermets*, and numberless equally beautiful varieties, which may be seen at any winter and spring exhibition of the New-York Horticultural Society, dazzle the eye and baffle description. The New-York florist who could think of importing Rose-buds from the tropics must have sadly mistaken his calling.

The cost of the floral decorations used on this occasion is said to have amounted to ten thousand dollars; upon which our contemporary comments as follows: "Don't this make your head swim? Can you comprehend the enormity of this foolish and lavish extravagance? You who are toiling early and late . . ."

Now, we have not the least doubt that Mr. Vanderbilt could apply his money to more charitable and benevolent purposes than the buying of flowers, but he might do a great deal worse with it. In fact, we are inclined to think that this is a far better and more praiseworthy object than he occasionally spends his money for, and that he should be rather encouraged in this tendency.

Where did these ten thousand dollars go to? Primarily to the florists who have furnished the flowers and arranged the designs—hard-working men, who, by industry, intelligence, and perseverance, have worked themselves up from poverty to the proprietorship of floral establishments. Through their hands it passed, in the form of wages, to their gardeners and workingmen, to the carpenters and masons and glaziers who built their greenhouses, to the iron-workers and machinists who built their heaters, to the potters and clay-workers who make their flower-pots, to the miners who dig the coal for the heating of their greenhouses, and to many other hard-working men and women, all of which in turn continue it in circulation in providing for the support of their families.

It is safe to assert that nine-tenths of this amount has passed directly to laboring men, and remains in the country; while, if it had been spent in traveling abroad, or in buying foreign works of art, or in many other less showy ways, it would have hardly elicited any unkind criticism, and yet it would not have brought a dollar among our working people.

The present custom among our fashionable society, of the lavish use of expensive flowers for the decoration of their rooms as well as their persons, should be encouraged rather than discountenanced. The only fault we can find with Mr. Vanderbilt, and other millionaires, in this respect, is that they do not spend enough. If they were to buy every week ten thousand dollars worth of flowers, they would bring more money among deserving working people, and do more real good than by devoting the same amount to promiscuous charities.

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Short, concise articles on horticultural matters, and reports of practical experiments and experiences in the garden, will be thankfully received and appropriately acknowledged.

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The Vegetable Garden.

SEASONABLE HINTS.

Asparagus. There may be, perhaps, vegetables that are more delicious, but, as the first harbinger of spring in the kitchen garden, this is certainly more appreciated than any other. The pleasures of the garden are surely seriously curtailed by the want of an Asparagus bed; and even some fortunate possessors of one seem to enjoy only half its luxuries, as is suggested by the inquiry: "What is white Asparagus good for?"

White, or *Blanched, Asparagus* is as superior in eating quality to the ordinary "green grass" as Sugar Corn is to Yellow Dent, and any one possessed of a particle of discriminating taste cannot for a moment be in doubt about the correctness of this statement, provided the cook knows how to prepare it properly. The best things may be spoiled in cooking. The white Asparagus stalks should be carefully pared, shaving off, with a sharp knife, all the hard, outside skin, from about two inches below the tip to the butt end. They are then tied in convenient bundles, placed in boiling water, and kept continually boiling until they are entirely tender, which requires about half an hour. They are eaten with melted butter or a white sauce, and should be served as soon as done, as they lose rapidly in delicacy and flavor if left standing. Prepared in this way, the entire stalk is tender and eatable; while, if it is not pared before cooking, only the tips are fit to eat. How to blanch Asparagus was described in our last number.

Tomatoes are very sensitive to frost, and should, therefore, not be planted out before the end of this month.

To those who are cramped for room in their gardens, the following suggestions of our correspondent M. L. P., about training the plants, may offer some valuable hints:

"When transplanting the Tomatoes, put them in even rows about three feet apart. As soon as they are large enough, hill them well up, and close to each plant drive a forked stick, leaving about three feet above ground. On the forks place long poles, firmly tied. To these train the vines, tying with strings, and nip off the shoots that grow too far above them. By this means every fruit will be fine, free from mud, even when heavy rains fall, and the vines keep in bearing till late in the autumn. The plants are more prolific, and but little fruit is lost, as is so often the case when the vines rest on the ground. In case of early frosts, double sheets of newspapers hung over the trellises will protect the Tomatoes till all are gathered. Let all who have to practice economy of space, and who care for the neatness of their gardens, try this method, and they will never grow Tomatoes in hills again."

Corn, Melons, Cucumbers, and other tender vegetables which cannot with safety be sown in the open ground before "Corn-planting time," may advantageously be forwarded in small pots, in a frame, or a warm window in the house, thus bringing them to maturity several weeks sooner. Melons and Cucumbers may also be sown, on inverted sods placed in a hot-bed, and at proper time transferred out-doors.

MUSK-MELONS FOR AMATEURS.

It is mere painting-the-lily business to teach market-gardeners how to grow Musk-melons. But not every suburban resident who has a small plot of ground does know how to do it well on a small scale. He fails so often when he tries it, partly from lack of deft management and partly through insect enemies, that he is apt to abandon it. This he does reluctantly, since a Musk-melon is one of the few things it is cheaper to grow for yourself, not through saving cost, but for superior flavor and sweetness. Between a Musk-melon carted miles to market, after being pulled the night before, bruised more or less in transit, and then kept on hand two or three days, and one taken fresh from the vines, there is a vast difference. No one knows how luscious the fruit is, unless he take it from his own patch. Perhaps I ought to except the chap who takes it from his neighbor's; but he gets it fresh also.

A light, sandy soil suits the Melon best; but I have grown fine ones on a heavy loam, lying exposed to the sun, and rendered friable by a thick coat of sifted coal-ashes, well dug in. Whatever your soil, it must be rich. Dig well with a fork, which does not pack like a spade, and lay off in hills six feet apart. From ten to twenty hills will be sufficient for a family, unless they be convenient to the village small boy, when a thousand will be none too many. Dig in the hills, as the catalogues tell you, two or three shovelfuls of well-rotted manure. Should you want them a little earlier, and have time to spend watering them continually, you may dig a deep hole, fill it two-thirds full of fresh manure, cover and plant. Put in as many seeds as you like,—eight or nine; but when the plants have made rough leaves, pull out the weakest, leaving three to a hill.

All this is very nice; but the moment your plants make their appearance your trouble begins. The first enemy on hand, as prompt as the tax-gatherer, is the striped bug. He has a Latin name, but you'll know him without that. Going to the hill where you saw smooth leaves on pale-green stalks the day before, you will find the stumps of the stems. As you bend over the ruin, a little bug, dressed in light olive, with yellow stripes on his coat, rises up and flies away.

There are various ways of baffling this fellow besides not planting at all, which is a dead-sure thing. One of them is to use a plant-protector, which all the seed-stores sell tolerably cheap; or you can make your own, by knocking the bottom and top from a soap-box, and covering it with gauze. But these are poor expedients, and retard growth, for they shade the plants, and the Melon loves light as well as heat. The true way is to murder the bug. Some one, in an agricultural paper, speaks well of Persian insect-powder. I dare say, if you once caught your bug, squeezed the back of his neck until he opened his mouth, and made him swallow a pinch, he would die; but when you go fully armed and bent on insecticide, away flies your bug, and there you are, squirt-pen in hand, and no victim ready. But you have another mode.

The striped bug does not like the wet, and sleeps, if possible, in dry quarters. He crawls every evening under clods, or some other shelter, out of the dew, and stays there until the rising sun dries things. Take advantage of his prudence. Assuming you have twenty hills, you provide yourself with forty blocks, small cuttings of planed wood from the nearest carpenter shop, or pieces of shingles, or even chips that have one smooth side. Leave at each hill two of these, each smooth-side downward, on a rough surface, or propped by a clod. Get up early in the morning,—you're not a worm, and the early bird wont catch you,—lift suddenly a block in each hand, bring the two surfaces together with a grinding motion, and kill your bugs. Then set your traps again. This method is as old as melon-patches; but it beats all the new devices. Keep it up lively until the plants have made three or four rough leaves, when they are out of danger.

There is another insect which sometimes leaves the Pumpkins and Squashes for a melon-dessert, but not often. This is the squash-bug, a dingy, flat, and angular fellow, with a most offensive smell. Put stout gloves on, and treat him by the finger and thumb—c-r-r-ranch!

When the vines are twelve or eighteen inches long, go among them and pinch the terminal buds to make them throw out branches. Keep the ground well stirred about the hills as long as you can without disturbing the vines too much. Keep the hills ridged around, so as to have a hollow in the center; and for a month or six weeks during warm weather, until the fruit is well set, give each hill every few days a half-pailful of manure-water. Chamber-slops, well diluted, are the best for this purpose.

As to the kind of Melon to plant, there are a half-dozen good ones. Allen's Superb is good; so is Sill's Hybrid. The Casaba, or Long Persian, is both fine and large; the old Nutmeg, if pure, is excellent; and the old Green Citron, of which the Hackensack is a variety, suits most people. I prefer Allen's Superb and the Casaba, and recommend you to plant both, with a few of the little White Japan for early. You can scarcely go amiss in selecting from any seedsman's stock, except you choose the old Yellow Cantaloupe. Beware of that. On second thoughts, no. If you be of a malicious turn of mind, and have spare ground, plant all the hills near the road with that kind, and contrive a hole under the fence for the accommodation of the small boy. Then, while Melons are ripening, you shall fiendishly chuckle over the disappointment of the depredator as he consumes his booty.

Do not rush the season in planting. That depends on the latitude; but, in this section, the last of May or the beginning of June is early enough.

When to pluck the Melon? So soon as it will part from the stem by gentle pressure. Every hour it is on the plant after that injures its flavor. T. D. E.

SUCCESSION OF PEAS.

To provide a continuous supply of Green Peas from the middle of June till the ground freezes up would, but a few years ago, have taxed the resources of the most skillful gardener. Now, this desirable object is easily accomplished by sowing a row of *American Wonder Peas* every week, from the time the ground can be worked till the middle of August. The first sowings require but light covering, but as the heat increases, the deeper have the seeds to be planted.

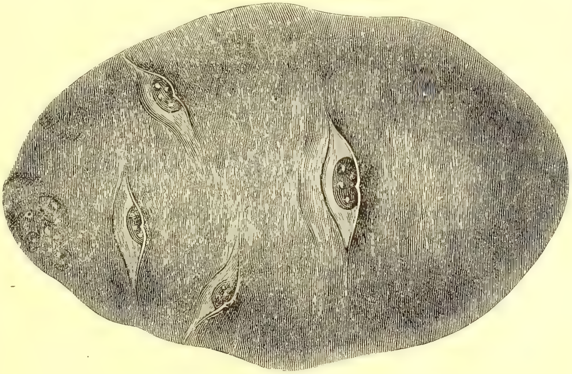
NEW POTATOES.

With the many new Potatoes introduced every year aspiring to take the place of the old and degenerating varieties, the task of determining their relative values becomes more and more difficult. Although we have grown in our experimental grounds, in juxtaposition, over five hundred named varieties, we are not yet prepared to say that the "ideal Potato" has been found. Whether it is among those introducing themselves now to public favor, those who give them a trial will be able to determine as well as ourselves.

The most promising of these are:

Rosy Morn, a cross between Peachblow and Early Rose. In appearance it resembles the latter closely, but surpasses it considerably in earliness and yield. In comparison with all the leading early varieties, and under the same conditions, it was decidedly the earliest fit for table use.

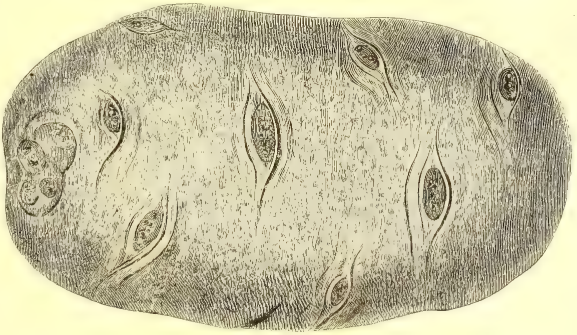
Rubicund, from the same parentage. This ripens medium to late, and is especially recommended for its great productiveness, good quality, and strong, vigorous constitution. It is longish oval, and of a peculiar coppery color, with purplish lines about the eyes.


ROSY MORN.

Tyrian Purple is derived from the once famous *Compton's Surprise*, of which it is a sport. It is roundish oblong, of good, uniform, medium size, dark purplish-red color, and the best quality. It ripens medium early, and keeps remarkably well till late spring.

Jumbo was exhibited last fall at the New-York State Fair, where its fine appearance and extraordinary size attracted much attention. It is medium early, irregularly round, has white skin and flesh, and is considered, by those who grew it last year, one of the very best Potatoes for general cultivation.

Blush.—Introduced by the *Rural New-Yorker*. It is especially remarkable for its drought-resisting quality. The tubers are of medium size, never growing very large, and yielding few small ones. Its quality is first class, skin white except at the seed end, where it assumes a rosy color, from which the name of "Blush" was suggested to the originator.


RUBICUND.

BEDDING SWEET POTATOES.

Raising Sweet Potatoes in Kentucky does not require the labor and expense necessary in the Northern States. At the beginning of April, or later, we make a box with boards by driving a stake at each end of the boards and one in the middle to hold them in place. It should be twelve to fifteen inches high, about four or five feet wide, and of a length proportioned to the quantity of Potatoes to be grown. This box is filled with leaves, which are then covered with fresh horse manure, direct from the stable, to a depth of eight or ten inches. The manure has to be tramped down firmly, and soaked with water if too dry. After this, two to three inches of well rotted compost or forest mold is scattered over and leveled.

On this bed the Potatoes are placed closely, but not so close that they touch each other. Smaller tubers are preferable for this purpose, as they give a better yield than larger ones. They may be planted whole or cut in two lengthwise, placing the cut side down. Four or five inches of light, fine soil is then scattered over them, the decomposed manure from last year's hot-bed being well adapted for the purpose. By covering the tubers this depth, the plants become better rooted than when only one or two inches of soil are used. Boards are now laid flat on the bed, and another tier on the top of these, so as to keep off rain.

If the bed becomes too warm, the boards are removed altogether; and if there is not sufficient heat, an old carpet is spread under the boards. The soil should be kept only moderately moist until the sprouts appear above ground, after which water is given freely and the boards are removed.

To obtain as many slips as possible, they must be "drawn" as fast as they are large enough for planting; and before taking them off, the bed should be well watered, so as to disturb the tubers as little as possible.

Managed in this way, a bushel of Potatoes will yield from eight to twelve thousand plants. Thos. D. Baird.

PREPARING VEGETABLES FOR MARKET.

It is one thing to grow a good crop and another to sell it at the best prices. A run through the market of any large city is sufficient proof of the truthfulness of the above statement. There the careful observer will see the best quality of garden vegetables left unsold, simply because they are not put up in an attractive form.

Last winter the commission houses in New-York received Celery of very fine quality from Michigan, but it was of slow sale, and could only be disposed of at a lower price than was quickly paid for an inferior quality put up in a more attractive shape. In this case a knowledge of the customs of the New-York market would have been greatly to the advantage of the Michigan growers, who, with their soil and climate so favorable for the production of fine Celery, can compete successfully with the best market gardens of the East, the greater distance and additional freight notwithstanding.

Large quantities of Rhubarb are now sent to market, and the long, tender leaf-stalks can be packed neatly without extra expense. Instead of tying up the stalks in awkward bundles by placing the leaf portion all at one end, it is much neater to place them half one way and half the other, and thus make an even, uniform bundle, with the foliage of alternate stalks at opposite ends.

Asparagus is one of the finest products of the garden in early spring, and to sell to the best advantage must be put up in a neat and attractive form. The bunches in the New-York market are nine inches long, and from four to five inches in diameter, made up in neat form by means of a "buncher." There are several forms of bunchers, the simplest of which is a board with four tall pins, between which the stalks are placed and tied. The lower ends are all cut on a level. There should be at least two ties, either of stout twine, or, better, strips of bast matting. Such a bunch weighs about two and one-half pounds.

A neat label should go with each crate of vegetables, giving both the name of the sender and commission merchant fully and plainly. Dr. B. D. Halsted.

The Fruit Garden.

SEASONABLE HINTS.

Each succeeding season seems to demonstrate more clearly that the relative hardiness of plants varies in different localities a great deal more than has generally been supposed. The past winter, a not unusually severe one, has left the conditions for perfect hardiness in greater mystery than ever. On our own grounds, which are fully exposed to north and west winds, Strawberries wintered better than during any previous winter we can recollect; and Raspberries, even so-called tender varieties, came out well, without the least protection, while in localities at no great distance, the same varieties suffered severely.

In the North-western States, the winter's lessons have been of sweeping severity. *Prof. J. L. Budd*, of the Iowa Agricultural College, writes us in this relation:

"This spring we have sad stories of wrecked orchards in all parts of Iowa, but the Russian trees and their crosses are everywhere perfect. The very hot summers of the prairie States are hard on the foliage of south of Europe fruits."

The importance of this new race of fruits, hardier than those we now have, to all our North-western States is incalculable; and the efforts of Prof. Budd in studying and introducing these Russian varieties deserve the highest recognition.

The backwardness of spring may deter many from carrying out all their contemplated plans, but whatever has to be deferred do not put off the planting of a Strawberry bed, if you have not already a good one.

Strawberries may in this latitude be planted during the first part of May as successfully as at any time, and we trust that no reader of THE AMERICAN GARDEN will be deceived by the illusion that "Strawberries can be bought cheaper than raised." In name perhaps, yes, as much so as a cheap chromo can be purchased for less money than the original masterpiece; but the superiority of a ripe, clean, fresh, and high flavored home-grown Strawberry over the ordinary market fruit cannot be fully expressed in dollars and cents.

The requirements for market fruits are just the reverse of those most desirable for home use, and a compromise in this direction is therefore impossible. The most essential properties in a market fruit, in the order of their importance, are laid down by the New Jersey State Horticultural Society as follows:

"1. Productiveness; 2. Keeping Quality; 3. Size; 4. Appearance; 5. Eating Quality. For home use, reverse the order."

When planting Strawberries late in spring it is essential that the ground should be in good condition, not necessarily very rich, but deep, mellow, and well pulverized; that about one-half of all the leaves and all the flower buds are removed before planting; that the soil immediately surrounding the roots is firmly pressed against them, leaving the surface light and loose; and that the plants are not set deeper than their crowns. Watering is of little benefit unless continued until a soaking rain sets in. By observing these points, success is almost inevitable.

INDOOR GRAPE CULTURE.

PLANTING AND TRAINING.

Most writers on indoor Grape culture recommend vines one and two years old as most suitable for planting. Now I think this a mistake, especially if the vines are planted inside the house, which they should be in all early forcing Graperies. When the eyes are inserted in January or February for propagating, and kept in good growing condition, they will be large enough for planting into the house by May, and by carefully handling the ball of roots when taken out of the pots, they will keep on growing the same as if they had only been shifted into larger pots. Keep the house closed, and the air within moist for a few days, until the roots begin to penetrate the new soil. They will then grow rapidly, and by the end of the season the Hamburg and other strong growing kinds will have shoots twelve to fifteen feet long, and proportionately thick.

Do not pinch the point of the main shoot the first season, but pinch off all laterals to the first eye from the main stem. This concentrates the full vigor of the vine into the leading shoots. As the vines grow, carefully train so that they shall be as straight as possible. Nothing looks worse than crooked vines, caused by careless management. I have had vines of the Victoria Hamburg make shoots up one side of a large span-roofed house and half way down the other, the first season, from the eye.

Vines may be planted from three to four feet apart, and should be so arranged that the roots can readily enter the soil of the outside border, as Garpevine roots will not remain long inside when they can get a chance and have anything to go outside for. They always appear healthier in an outside border than in an inside one, if it is free from stagnant or standing water,—nothing being more essential to the healthiness of the vine roots than a free passage of the water from the soil in which they are planted.

Although a good strong growth is preferable during summer, it is also very necessary to have the wood well ripened before the close of the season. This can only be obtained by giving plenty of air night and day during the late summer and fall months, at the same time maintaining good healthy foliage to the end of the season; prematurely ripened foliage does more harm to indoor Grapevines than anything I can think of. There is such a close relation between the leaves and roots of Grapevines that, if the leaves are prematurely destroyed, the roots suffer proportionately; therefore, well ripened roots are as essential to success in Grape culture as well ripened wood, and this can only be obtained by providing them with a well drained border to grow in, and well ripened foliage to supply them suitable food to the end of the season.

PRUNING.

The first year vines should be pruned according to their strength; if strong and well ripened, they may be left longer than if weak and immature. The main object is to get all buds started into growth from the bottom of the vine, as upon this depends a plentiful supply of fruiting spurs. When the vines are to be grown on the spur system, leave two or three eyes to start where the spurs are intended to begin. There is no danger of getting this many to start if the wood is anything like ripened at all.

VARIETIES.

The best Grape for all purposes of indoor culture is the Black Hamburg. It is good for early forcing, and also for late bearing.

Among the best for an early grapery are Victoria Hamburg, Wilmot's Hamburg, Muscat of Alexandria, Canon Hall, Muscat and White Frontignan, and Muscat Hamburg,—a Black Hamburg with Muscat flavor, said to have been produced by crossing the common Hamburg with the Muscat of Alexandria. For a late house, I would recommend Black Hamburg, Lady Downe's Seedling, Chasselas Musqué, and Black Prince.

It is not advisable to plant a large number of varieties; and although there are other kinds of excellent quality, none are as reliable as those named.

MANSFIELD MILTON.

HOW FOREIGN GRAPES ARE SOLD IN NEW-YORK.

In former years the imported White Malaga Grape was considered a luxury which only the rich could indulge in; but lately the supply has been so large that the prices have declined to such an extent that they are frequently offered by the street venders at fifteen cents per pound.

This fruit is received by small, well-known firms in our city, who sell large quantities of the finer grades direct to the jobbers; but the bulk of the crop is sold by a single auction house. These are shipped in packages of three sizes, viz., barrels, half barrels, and quarter barrels, professed to contain relatively fifty, twenty-five, and twelve pounds of Grapes; but they seldom come up to the standard weight, even when the fruit is in good condition, which is the exception, not the rule. The value of the fruit varies as with our native Grapes, according to the size of cluster and berry, as well as color and sweetness.

The variety known as the Lisbon possesses all the shades of purple, and comes seldom of a uniform color. It is similar in size and quality to the Malaga, but sweeter, and is packed with cork in boxes instead of barrels.

The auction sales are conducted in this way: On a raised platform a piece of canvas is laid, around which the buyers gather, with catalogues in hand, which give them the numbers and size of packages contained in each lot. When the sale begins, a man opens and empties on this cloth from three to six packages of the line offered, according to the number of cases to be sold in one lot. Barrels are usually sold in lots of ten, and and smaller packages in lots of twenty. From these samples all of that lot is sold, and no deductions are made from the price if the fruit proves to be ever so bad. After all of a line is disposed of, the samples are sold and returned to the packages; then another lot is offered, and so on until all are sold. When it occurs that the prices offered are not satisfactory to the owner, which is not infrequently the case, he has the privilege to withdraw from the sale.

C. W. IDELL.

FILBERTS.

The cultivation of Nuts, especially Filberts, or Hazel-nuts, has so far received little attention in the United States; and yet Nuts are enjoyed by all, furnishing an agreeable dessert as well as a wholesome winter food, substituting in some measure the small fruits of summer.

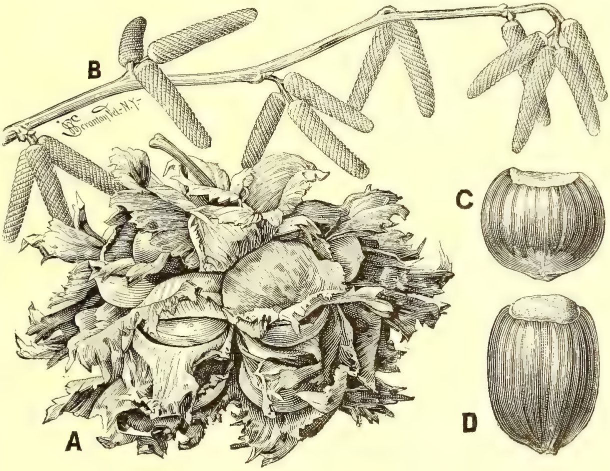
Like Raspberries, Blackberries, etc., they are found growing wild in our woods, and have in similar manner been greatly improved by cultivation and hybridization; so that those who have never seen and tasted the better cultivated kinds would hardly recognize them as the descendants of the unsightly Hazel bush in the hedge-row.

The accompanying excellent illustration, kindly furnished by Mr. J. T. Lovett, Little Silver, N. J., who has given considerable attention to Nut culture, represents: A, cluster of Nuts in husk; B, blossoms; C, English Filbert; D, Kentish Cob Filbert.

In the county of Kent, England, hundreds of acres are devoted to Filberts, and the culture and care given them produces Nuts of superior quality. The system pursued there, and described in *Gardening Illustrated*, will be of interest to those intending to make a trial in Nut culture.

The plants are trained up with a single stem less than one foot in height, after which the branches are tied outward to a wire or wooden hoop, so as to give them a cup-like form. All shoots arising from the center are removed during summer. The advantage of the plants being trained in this shape, is that it admits sunlight into the center of the trees, as well as elsewhere. Some plantations of Nut trees occupy several acres in extent, the trees being fully fourteen feet in diameter, and not more than five feet high at the outside. Severe pruning is adopted to keep them within bounds, and all suckers are carefully removed every year. The small wood of the previous year's growth produces the fruit, and short spurs of this are only left in winter, all gross and fruitless shoots being entirely cut away.

The trees are generally planted sixteen feet apart each way, or alternately with standard Apple or Pear trees, and when Apples and Pears are scarce, a fair crop of Filberts is often secured. Sometimes a single tree, well established, has been known to bear forty pounds of Nuts, and over five hundred dollars per acre have been realized.



FILBERTS.

CAUSES OF FAILURE IN THE PEACH.

Of all our fruits none are more affected by favorable or injurious influences than the Peach; hence, if mistakes in its management are made, failure is inevitable.

Many failures occur through gross carelessness in propagation. Unsound seed and bad buds are sure to produce diseased trees. On infected soil even the best seeds and buds will lead to failure; hence the great importance of clean, new, suitable soil for Peach culture.

Again, the *Peach borer* may destroy the best trees on any land, which, although the cause of nearly one-half of the entire loss of Peach trees, is entirely preventable.

Excessive late growth—too late for proper ripening of the wood—is too often a cause of failure. Trees thus grown may be expected to fail; hence the Peach should be planted on land of moderate fertility, and on a high northern exposure, if practicable.

Again, *over-bearing* is a frequent cause of early decline in the Peach orchard. The tree has a tendency to prolific bearing; it ripens its fruit in the dryest part of the year, and an excessive crop may entirely overdraw its reserved vitality as readily as your bank account if imprudently managed.

A bushel of Peaches of one hundred and forty specimens is worth far more than if made up of double this number, and exhausts the tree far less. Therefore, if your Peach trees bloom full, when they begin to show color shorten back and thin out one-half of the young wood, which will result in a fair crop of *extra fine* Peaches, and a growth of well matured wood, firm and healthy for the succeeding year.

To preserve the health of Peach trees in bearing no other crop should be grown in the orchard; they should be well cultivated till mid-summer, but after July the ground about them should not be stirred, in order to secure ripened wood. The ground of a young orchard must be moderately enriched, that is, neither starved nor over-fed.

An application of caustic lime once in three or four years, at the rate of twenty-five bushels per acre, more or less, according to the fertility of the land, counteracts acidity of soil and fungoid development.

An occasional dressing of superphosphate of lime or ground bone is also advisable to supply the special wants of the Peach. For the same reasons, apply occasionally four hundred to six hundred pounds of high grade muriate of potash, to supply not only the necessary potash, but "chlorine," which Doctors Gœssman and Penhallow consider a specific against yellows.

But before all, as soon as you see the first indication of manifest disease, stamp it out by the entire removal of the tree, root and branch.

Don't say you can't raise Peaches till you have provided their requisite conditions and then failed.

P. M. AUGUR.

LARGE GOOSEBERRIES.

The cultivation of the large English varieties of Gooseberries in our climate is generally considered so difficult that it is but seldom attempted. An amateur horticulturist living in the vicinity of New-York has for several years met with such marked success, as was demonstrated by the monstrous berries he brought to our office last summer, that we requested him to give us his mode of treatment for the benefit of our readers, to which he kindly responds as follows:

"Gooseberries should be planted on level ground, and in good, mellow loam, naturally underdrained. Dig the holes sufficiently large enough to admit all the roots without cramping. Place sods, upside down, in the bottom. In the center of the hole make a little mound of rich soil on which to place the plant; spread the roots all around, and cover with rich soil. On this put three inches of good, rotten horse manure, and fill up with earth. In dry weather water evenings with brook or rain water.

"Train in tree shape by removing every shoot that springs up from the roots or side of the stem. About a foot from the ground the side branches are allowed to grow. In pruning, which has to be done very early in spring, cut away all upright branches, so as to form a flat top, and thin out and cut back the side branches pretty severely. When the trees commence to bear heavily a hoop should be fastened around them to support the branches. After the fruit has set, watering with liquid manure will be found to increase their size. During the hottest part of the day they should be covered with an awning to prevent burning or blistering."

THE BEST STRAWBERRY.

About thirty years ago, John Wilson, of Albany, N. Y., introduced to the world his "Wilson's Albany Seedling." Thousands of new varieties, every one claimed to be better, have since been introduced, and yet at the recent meeting of the Mississippi Valley Hort. Soc., at which many of our most experienced fruit-growers participated, it was almost unanimously declared "The best Strawberry for general cultivation yet known."

The Flower Garden.

MAY BLOSSOMS.

Oh, the pink Arbutus blossoms,
Peeping forth with starry eyes
From their shady hiding-places
'Neath the Spring-time's azure skies!
Grateful for the light and shadow,
Grateful for the balmy days,
How the dainty trailing blossoms
Yield the incense of their praise!

Timidly they roused from slumber,
Wakened unto life again,
These sweet darlings of the May-time,
Born of April's sun and rain;
Timidly, then growing bolder
As the sunshine warmer grew,
'Neath the merry sunbeam's kisses,
Blushing into brighter hue.

Now they wait to hear the music
Of the children's voices sweet,
Of the merry lads and lasses
Coming swift on eager feet.
Searching for the dainty flowers,
For the welcome gifts of May;
Hunting field and forest over
For the treasures of May-day.

Oh, the merry-hearted laughter!
Oh, the baskets crowded o'er,
Overflowing brim and cover
With the dewy, fragrant store!
Hail, ye sweet Arbutus blossoms!
Welcome, all bright flowers of May,
'Neath the hedge, o'er field and meadow,
Blossoming from day to day!

— *Companion.*

SEASONABLE HINTS.

To most of our readers real spring days laden with the perfume of bright spring flowers do not come much before this month, and even in this latitude it is not rare to see snow-squalls after May-day.

Tender Plants should, therefore, not be trusted outdoors until all danger of night frosts is over. The last week of the month is early enough for Coleus, Salvias, Heliotropes, and most bedding plants. However, by repotting them in good soil, and keeping them growing in a cold frame or sunny window, they may be forwarded so as to produce an immediate effect when bedded out.

Hardy Annuals are, since the introduction of the many showy bedding plants, not as extensively grown as formerly, and yet many of them are still unsurpassed in fragrance and delicate beauty, and cannot be dispensed with by the real lover of flowers.

What could replace the Mignonette, the Sweet Alyssum, the Sweet Pea, the Phloxes, the Portulacas, the Morning Glory, and many other treasures of summer? All these should be sown without delay in rich, mellow, deep soil, covering lightly, especially the smaller seeds, packing the soil after sowing, watering copiously, and shading for a few days from the brightest sunlight. An important point with annuals is not to allow them to grow up too crowded; they have, therefore, to be thinned out so as to permit sufficient room for the development of each plant.

If there are any of our readers who think they have neither time nor money to devote to flowers, and yet are fond of them, let them try a package of *Wild Garden Seeds.* These are sure to give pleasure, with the least possible labor and expense.

CHRYSANTHEMUMS.

The history of the improvements in Chrysanthemums furnishes considerable material for interesting study, and when it is considered that the production of the first seed in Europe does not date back more than half a century, the progress made appears marvelous. Blooming long after the blossoming season of nearly all cultivated plants, they stand without a rival, and can never fail to meet deserved appreciation. The *Massachusetts Horticultural Society* has taken up this subject at a recent meeting, and from the interesting discussions thereon we condense the following:

The cultivation of the Chrysanthemum, said Dr. H. P. Walcott, begins with the treatment of the flowering plant, which, after flowering, should be at once cut down to the level of the ground. The shoots, which are promptly made, should be grown with thorough exposure to light and air, so as to give strong cuttings in March, which—with the exception of a few late varieties—is the best season for propagation. The cuttings should be three or four inches long, and potted separately in two-and-a-half-inch pots. They do not require bottom heat. When the roots are formed they should be shifted to five-inch pots, in a compost of one-half good loam, one-fourth leaf mold, and one-fourth well-rotted stable manure. When ten inches high, the plants should be pinched down to four buds. The young plants should be given a place in a cold frame as soon as possible, and on the third week in May planted in the open air, about three feet apart, in a well-exposed location. The subsequent treatment consists in keeping the ground moist, and watching for mildew, which appears the last half of August. The final potting is finished by the middle of September, after which the plants are kept in the open air in a sheltered situation until the first severe frost, when they are placed in a cold house. The final potting is in a soil of equal parts of rotted sod and stable manure; and until the buds are on the point of expanding, the plants receive frequent waterings with some strong liquid manure.

For mildew the remedy is sulphur, either in powder or in the compound called water of Grison. This is made of one pound each of sulphur and quicklime and three quarts of water, boiled ten minutes in an iron pot. After settling, the top is poured off and bottled, and diluted with one hundred parts of water.

The insect enemies of the Chrysanthemum are the green aphis through the season, the black aphis later, the grasshopper, and a root louse. The aphides can be destroyed with Tobacco water, the grasshoppers must be picked off by the hand, but no remedy is known for the root louse. The formation of the plants is effected by pinching; but to obtain perfection of flower, the Japanese varieties should not be pinched more than once, or the large flowered more than twice, while the Pompons may be pinched with safety to any extent up to the middle of August.

Though the Chrysanthemum is essentially a plant requiring protection to insure its flowering, a number of varieties have been obtained, flowering in September and October, and some as early as July; and the number of these has, by the efforts of the French growers, much increased in the last few years.

E. W. Wood said: Most of the trouble in growing Chrysanthemums arises from improper treatment after flowering. Sometimes they are placed under the greenhouse stage without water, or too much is given. In the latter case the roots become diseased, and such plants cannot afford healthy cuttings for the next year.

Edward L. Beard said that the Japanese varieties should not be nipped as late as the others; once is enough. Another mistake is leaving them in small pots too long; they want to be grown continuously, and unless they are, cannot be grown successfully. If properly nipped they can be grown much earlier.

Hon. Marshall P. Wilder said that he fills every available space in his greenhouse with Chrysanthemums in their season. They come at a time when there are few flowers. They must be propagated from good cuttings, and not from little wiry suckers. They must be kept growing before and after they are put out. No flower is so good to cut from, and none affords as good a return for so little labor. Sulphur, with a little caustic lime, is a sovereign remedy for mildew.

SALVIAS.

For the production of a brilliant, massive, floral effect during late summer, and all of autumn until frost, no plant can compare with the Scarlet Sage, *Salvia splendens.* Its large, pendent, plum-like racemes of brightest scarlet form a striking contrast against its glossy green foliage, and in fact against that of any green-leaved plants and shrubs.

The plants may be grown from cuttings or from seed, the latter method being the one generally adopted. The seed is sown very early in spring, in a greenhouse or hot-bed; when of proper size, the seedlings are planted in small pots, and toward the end of May transplanted to the open ground. They are now raised in immense quantities by florists and nurserymen, and the young plants may be purchased cheaply in every flower market. The Salvia is naturally a rank grower, forming long-jointed stalks; and in order to produce its best effects, the plants must be pinched back from the start, so as to shape into a compact bush.

They delight in deep, rich soil, and should be watered evenings during very dry weather. Toward the end of September they may be taken up, potted in soil consisting of three parts loam, one leaf mold, one manure, with a sprinkling of sand, or in any good, rich soil. If lifted carefully, shaded for a few days, and then brought to a sunny window, they will continue to bloom for some time.

BENEVOLENCE AND FLOWERS.

In the culture of flowers there cannot, by their very nature, be anything solitary or exclusive. The wind that blows over the cottage porch sweeps over the grounds of the nobleman; and as the rain descends over the just and the unjust, so it communicates to all gardeners, both rich and poor, an interchange of pleasure and enjoyment, and the gardener and the rich man, in developing or enhancing a fruitful flavor or a delightful scent, is in some sort the gardener of everybody else.— *Charles Dickens.*

JUNCUS ZEBRINUS.

This beautifully variegated plant, of which the accompanying illustration gives an accurate representation, enjoys, not inappropriately, the popular name *Porcupine plant.* It is a native of Japan, and was originally brought here by Mr. Thomas Hogg. The entire stock passed into the hands of a nurseryman in England, where it has been propagated and made famous, and whence it is now re-introduced to America.

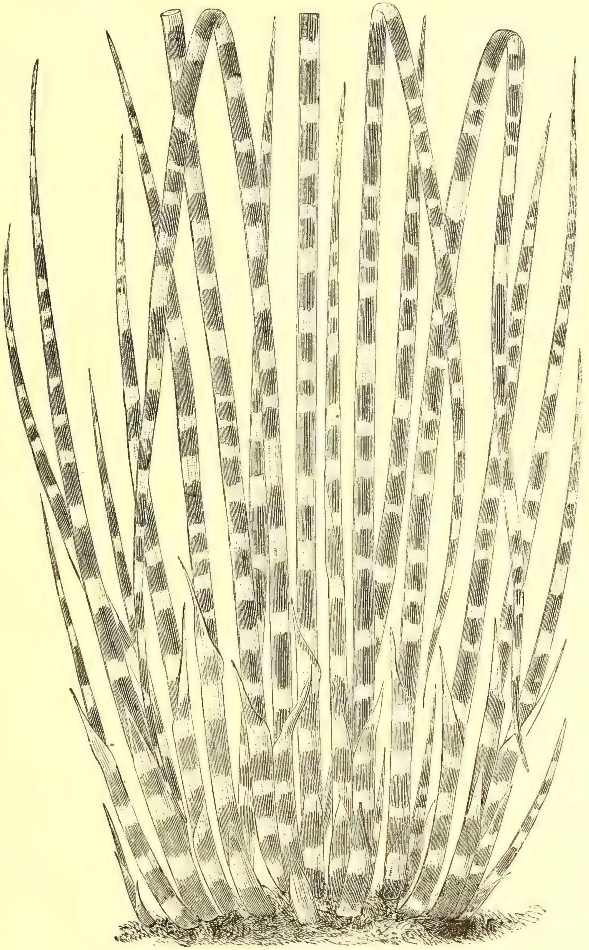
The plant is semi-aquatic, and belongs to the family of *Rushes.* Its round, glossy leaves are transversely variegated with green and ivory-white bands, of varying widths, making in some the white, and in others the green predominating. The species is almost deciduous; that is, the larger portion of the leaves die off during winter. When the leaves first appear in spring, they do not show their peculiar variegation very decidedly; but as they grow to maturity, — at which time they attain a height of three feet in strong plants,—they become more distinctly marked.

From present appearances the plant seems to be perfectly hardy in our climate, and will prove a most valuable addition for various purposes: in the mixed border, as single specimens on lawns, and especially for the margins of ponds, and in bog-gardens.

When used as specimen plants on lawns, where the soil is sandy or not naturally moist enough, it will be found a good plan to use a large flower-pot, stop up with a cork the hole in the bottom, and fill with rich soil about two-thirds full; then place the plant in it, press the soil firmly about the roots, and fill with water. The pot should then be plunged up to the rim in the ground in the place desired. The soil should never be allowed to become dry, and whenever necessary, the pot should be filled with water. Such a condition is more in conformity with the natural requirements of the plant, which will thrive much better in this way than planted out in a soil subject to the fluctuations of drought and moisture common in our climate. In winter the pot should be lifted and placed in a cellar.

For indoor culture the plants are equally desirable, and may be effectively used as single specimens in windows, in vases and baskets, or in Wardian cases and aquariums.

John Thorpe.



JUNCUS ZEBRINUS.

SPRING TREATMENT OF ROSES.

One of the principal causes of failure with Roses is uncovering them too early. It is seldom advisable to remove the covering before the first of April, and then only a part should be taken off, leaving the remainder about two weeks more, or longer if the season is very backward. The plants should then be pruned, and the beds receive a good dressing of well rotted manure, slightly forked under, and the beds leveled, so as to present a neat and tidy appearance.

Hybrid, Perpetual, and Moss Roses bloom best on the strong, new wood; they require, therefore, to be cut back pretty severely before the shoots start into growth. This pruning should be carefully performed, so as to give the plants a symmetrical form; and, as the plants will attain considerable size in a few years, it is quite essential that a perfect shape should be preserved.

The Everblooming Roses, Teas, Bourbons, etc., require to be cut back about one-half, and all weak and dead shoots should also be removed. It often happens that some are killed to the ground; but if the roots are not injured, they will soon put forth new shoots, and flower as well as ever. Climbing Roses should also be pruned in the spring, removing all dead and weak wood, and as much more as is necessary to keep the plants in their proper limits. Baltimore Belle is one of the very best sorts; when in flower, the whole plant appears a perfect mass of bloom. The flowers are very double, and are produced in immense clusters.

In this vicinity spring is the best season for planting Roses, and if the plants have been grown in the open ground, the earlier they are planted after the ground has settled the more likely are they to live and flourish. When grown in pots, it is best not to plant them out before the first of May, which allows them sufficient time to take hold of the soil before the hot, dry summer weather sets in.

In preparing beds, it is well to remember that the Roses do not thrive in a very moist or heavy soil; so, if the ground is wet, it must be well drained or, if heavy or clayey, all the soil in the bed will have to be changed before Roses will thrive in it.

Roses luxuriate in a deep, rich soil, and produce flowers in the greatest profusion and perfection, both as regards size and color, if this essential requisite be given them. To attain the best success, the entire bed should be dug over to the depth of two feet at least, and a good quantity of well rotted manure and bone-dust should be thoroughly incorporated with the soil. All this preparatory work should be done as early in the season as possible, so that the soil may become well settled before the time for planting arrives.

In planting, it is important to firm the earth tightly around the roots; and in selecting a situation for the bed, choose a sunny place, fully exposed to light and air. Keep the ground light and mellow, free from weeds, the plants free from insects, and an abundance of beautiful buds and flowers will be the reward.

When making a selection of varieties, hardiness, vigor of growth, beauty of form and color, fragrance and constancy of bloom have to be considered, bearing in mind that all the best qualities are not to be found in one Rose.

Charles E. Parnell.

Lawn and Landscape.

ARRANGEMENT OF EVERGREENS.

It seems somewhat surprising that the great advance in horticultural knowledge, as well as the improvement in rural taste, should not ere this have lead to a more judicious employment of Evergreens than is generally apparent. The serious mistakes of our fathers, and their failure to realize the most common features of Evergreen growth and needs, have resulted more in a feeling of disgust toward the whole coniferous family than in a disposition to try again, with a view of avoiding the errors of the past. The rapid growth, thickly massed branches, and persistent foliage of Evergreen trees should have taught that close to the parlor windows and the front walk was not the place for the larger species of conifers; but they obviously failed to teach the lesson, the consequences of which failure are to be seen in the miserably trimmed-up specimens to be seen about so many dwellings.

Frank J. Scott, in his valuable work on the "Art of Beautifying Suburban Home Grounds," says that "One of the most striking beauties of Evergreens is the manner in which their branches bear great burdens of snow and bend under them. The softly rounded drooping masses of light on the outer boughs, relieved by dark recesses in the foliage, make every tree, at such a time, a study for a picture." He might have added that this beauty was only seen in its highest perfection where the lower branches rest upon the lawn. Upon this fact, and the other one,—that Evergreens hide what is beyond,—is found the key-note of Evergreen planting.

For sheltering, wind-breaks, and close screens to hide unsightly objects, the larger growing Evergreens,—as the White, Austrian, and Scotch Pines, the Norway Spruce, and Balsam Fir,—have a value that is far from being appreciated. For a low, broad screen to separate ornamental grounds from those devoted to the raising of crops nothing is prettier than the Hemlock. For a higher screen, where a very narrow base in proportion to the height is wanted, the American Arbor Vitæ fills the bill exactly. The stiff, formal look which single rows of Evergreens have can be materially modified by planting larger wind-breaks in the form of elongated groups, and by making the most prominent sides of screens backgrounds for smaller Evergreens or flowering shrubs. Their use for fences, especially in very small inclosures, and where one joins another at right angles, gives an inapt, clumsy look to a place that more than counterbalances any beauty the trees may be supposed to possess.

For the location of individual specimen trees, or groups, upon a lawn, it is difficult to give anything but the most general rules. Undoubtedly the queen of large Evergreens is the Norway Spruce; but, like other rulers, it needs a large field for action. This, and the American White Pine, should only be planted on very large grounds, and the former should always have a clear expanse of lawn all around.

Large Evergreens should also be placed on the outer borders of grounds. For lawns of less than one-third of an acre nothing is better than the Siberian Silver Fir,—a comparatively rare, but very beautiful tree.

In lawns of large extent there is nothing more effective than large, irregular groups of Evergreens, presenting deep recesses or bays, partially dividing the lawn into smaller and somewhat detached portions. These add variety and seclusion, and afford abundant opportunity for unexpected surprises in the way of flower-beds, and the most effective display of shrubs of marked characteristics.

L. B. PIERCE.

AMELANCHIER CANADENSIS.

Under this head, Torrey and Gray have placed all the known species of the older botanist found in our own country. Although the varieties vary apparently as much, and often more, among themselves than species of other genera do, their differences are not so much of a specific character as due to influences of climate and locality.

The common name is also exceedingly diverse. In New England it is known as the *Shad Bush*, from the fact that its season of inflorescence commences at the time when the shad first begins to ascend the streams; while in the South it is generally known as June Berry, because the fruit ripens in that month.

The two most conspicuous varieties are the *Botryapium* and *oblongifolia*, both extremely showy and notable by their early blooming.

The variety *Botryapium* is a graceful little tree, commonly attaining a height of from ten to twenty-five feet, although occasionally exceeding this size. The leaves are oblong-ovate, sharply serrate, rather glossy, and appear with the flowers early in the spring. The blossoms are snow-white, produced freely in long, light, drooping racemes; the stipules and enveloping bud scales are a crimson purple and covered by silky hairs, producing, by contrast of their color with the pure white of the petals, a delicate and beautiful effect.

The other variety, *oblongifolia*, is a somewhat smaller tree than the preceding, and often only a large shrub, growing in low moist places. The flowers are borne in more compact racemes, while the young twigs and leaves are covered by a dense white woolly down.

Few indigenous trees or shrubs possess more desirable qualities for ornamentation than the *Amelanchier*. It is readily transplanted from its native habitat, especially when young specimens and such that are found in open, exposed situations are selected. The earlier in spring the bushes are dug up and removed the better, but we have had good success in transplanting them when already in flower. Of course, the longer transplanting is deferred, the more care should be taken to retain as many roots as possible, the branches should be severely pruned back, and all flower-buds removed as soon as they appear during the first year. The general character of the plant becomes greatly improved under cultivation; its flowers become larger, and are produced in greater abundance, so that the little tree seems to be completely blanketed with a snowy sheet. It is noteworthy that even under considerable neglect they will still flourish, but here as elsewhere well bestowed care and attention is amply repaid.

IKE IVY.

The Window Garden
AND GREENHOUSE.

CINERARIAS.

For amateurs, who have a small greenhouse and a few frames, let me commend the cultivation of the Cineraria for winter flowering. Its great variety of colors, delicate perfume, low habit, and simple culture ought to make it a general favorite. There is a point of interest, too, in perpetuating good varieties and improving others by hybridization, the results of which may be fairly successful, as at that season there are few insects to interfere with the process of fertilization.

For plants intended to bloom in December, sow in April or beginning of May, in shallow, well-drained pans of fine soil; sow on the surface; cover with a pane of glass and paper, shade until germination takes place, and put in a warm, shady part of the greenhouse. When the seedlings have two leaves, place into three-inch pots of rich soil, composed of three parts turfy loam, one part dried cow-manure, and a sprinkling of sand. Keep them shaded for a few days, and when well established water with diluted manure-water occasionally. The last shift should be into six or eight inch pots, well drained, plunging the pots in ashes in a cold frame facing the north; means should be taken to shade from the direct rays of sun and, at the same time, give abundance of air. When frost is expected, remove to the coolest part of the greenhouse, where they will gradually come into bloom.

For Spring flowering plants, the seed is sown in September or October, and the plants receive their final potting in February.

FRANCIS REGAN.

FREESIAS.

Freesias are little bulbous plants from the Cape of Good Hope, long known to botanists, but only recently introduced as popular garden flowers. They grow twelve to fifteen inches high, have foliage not unlike small, narrow-leaved Irises, and a little bunch of white or yellow, spotted with orange colored flowers at the end of a ten to sixteen-inch long, slender scape. These flowers are moderately large, very pretty, deliciously fragrant, abundantly produced, and great favorites with florists for their finer bouquet work. Potted in September or October, say six to nine bulbs in a six-inch pot, and grown along as you would a potted Hyacinth, slowly at first, then in lighter and warmer quarters, they will blossom between January and the first of April. During the summer months let them "dry off and rest," as you would an Oxalis, and start them again, by giving a little water in September. Unless you think there would be too many roots in the pot you may grow them in the same soil, and without repotting them for two years, providing you give them a top dressing of fresh, rich earth. They are easily raised from seed, and seedlings one year old will blossom. Their nomenclature is somewhat muddled, but the two kinds known as *Freesia refracta alba* and *F. Leichtliniana* are, I think, as good as any.

WM. FALCONER.

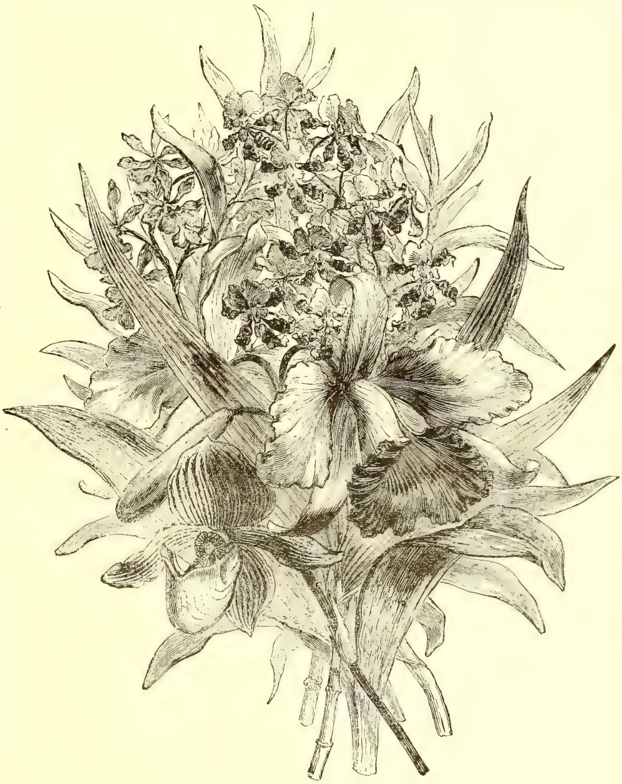
ORCHIDS FOR THE PARLOR.

In the early days of their culture, the nature of Orchids was little understood. As they generally are natives of tropical climates, it was supposed that they required great heat, and as the epiphytal species grow upon trees, the houses in which they were grown were made vapor baths, so as to afford the requisite moisture. The fact was overlooked that a plant growing in the tropics is not necessarily a heat-loving plant, the temperature at which it thrives being regulated in its native state by the altitude of its location, and none seemed to remember that the temperature of a United States summer is far hotter than the weather under the equator. No one knew—a fact too little understood by Orchid growers even now—that Orchids never grow in close, damp, pestilential localities, but always in free, fresh air.

The result of all these errors was that a large proportion of the Orchids imported perished. Although experience and experiment brought knowledge, it is within a few years only that "cool culture" has been recognized as a principle of Orchid growing; and even now, in spite of the magnificent results which have been attained, this system is yet in its infancy.

Outdoor culture in summer has been found to agree perfectly with most Mexican and Central American Orchids, and any one who has a grape arbor where there is free air can have all summer a splendid show of bloom. One of our oldest and most learned orchiologists grows all his *Lælias*, *Stanhopeas*, *Lycastes*, *Oncidiums*, *Chysis*, *Cattleyas*, and many others out of doors from June to October, and the show of bloom and vigor of growth is astonishing.

The winter culture is simply to grow the plants with very little water and heat in a cool greenhouse or conservatory. Let them rest as much as possible. All we have mentioned could be kept in a small conservatory built off a parlor. We are not sanguine enough to hope that *Phalænopses*, *Vandas*, *Saccolabiums*, and other beautiful East Indian Orchids can ever be grown out of doors or in the parlor, but there are some of the Indian Lady's-slippers which are very hardy, and which are good parlor plants. The oldest and best of these for this culture is *Cypripedium insigne*. The foliage is ornamental, and the flower is very showy and lasts many weeks in beauty. *C. venustum* is of lower growth, and though the flowers are not as handsome, the foliage is beautifully marbled. These two may be grown in a sunny window, requiring no more care than a Geranium, and doubtless there are others of the large Lady's-slipper family which would succeed under the same culture. *Lycaste Skinneri* is a very beautiful plant, with great white and rosy flowers, which we have grown beautifully in the house, and the whole *Lycaste* and *Maxillaria* family are cool Orchids of easiest culture, many of which, by experiment, would doubtless be found to succeed under the same culture. The immense family of *Epidendrum* are mostly cool Orchids, and many would grow and bloom in the parlor. The first Orchid we ever had was *Epidendrum Phœniceum* from Cuba, and we grew it for years, tied on to a branch in a southerly window, where it bloomed every spring.



A BOUQUET OF ORCHIDS.

We do not, however, advise house culture upon blocks, for the air of rooms is usually too dry. Let the plants be potted in sphagnum, peat, and broken pots, and, while care must be taken not to over-water, not allowed to dry up. *Oncidiums*, which are among the most showy of Orchids, do not require much heat. Indeed, some species grow where, at seasons, frost is found on the leaves, and from the hardier species, doubtless, some could be found which would produce their bright flowers under house culture. *Odontoglossums* and *Masdevallias* are all cool Orchids; indeed, the trouble cultivators now find is that our summers are too hot for them. Why should not some adapt themselves to the parlor? Orchids are now very cheap; ten dollars will buy more than one hundred could have bought a few years ago. Any one can buy Orchids, and not poor kinds, but very choice species, with little expenditure.

Who will be the first to grow Orchids in the parlor, and, by repeating his experience, to teach others how to do likewise?

E. S. Rand, Jr.

GLOXINIAS.

The Gloxinia is a native of South America, so named in honor of the botanist Gloxin. It is one of our handsomest summer-flowering plants, attractive and interesting from the moment it starts into growth. They may be as easily wintered as any of our summer bulbs or tubers, requiring but little attention, and may be propagated by division of tubers, slips, leaves, or seeds. Inexperienced hands should not attempt division, but rather make slips of the extra growth, taking them off when about three inches high. These should be potted in sandy soil, and kept but moderately moist until growth commences, when they have to be transferred into larger pots with good, rich soil. Turfy loam, leaf mold, and a little well-rotted old hotbed manure make a good compost, but directly around the tuber should be a handful of very sandy soil.

The seeds are very small, and to make them grow requires great care. In a shallow pan, with fine, well prepared soil, smoothed down carefully, scatter the little seeds on the top and cover lightly with finely pulverized moss, which retains the moisture and hastens germination. If allowed to become very dry, or if kept too wet, the vitality of the seed is injured. Unless the plants come up too crowded they may be left in the pan till the following spring, when they have to be potted off singly.

Gloxinias succeed best in partially shaded places, protected from rains and strong wind, and in watering care must be taken not to wet the leaves. While growing, the plants should be kept in warm, moist atmosphere, removing them to a cooler place as soon as the flowers appear. After the blossoming season they are gradually dried off and kept dormant until the following season. When growing, they require a temperature of not less than 70°. Amateur.

Foreign Gardening.

TROPICAL FRUITS.

TAMARINDS.

The Tamarind *(Tamarindus Indicus)* is often cultivated in Brazil. There are two varieties, which seem to differ only in the length of the pod. The ripe pods are sold in the streets for about a cent each; they have a soft, acid pulp, and are chiefly used to make a refreshing drink, called here Wine of Tamarind, though it is not a fermented liquor.

The tree is very beautiful, with light pinnate leaves and racemes of fragrant flowers, in which the colors yellow, red, purple, and brown are mingled.

ALLIGATOR PEAR.

The Alligator Pear, *Persea gratissima*, is sometimes an immense tree. The fruit, which is occasionally seen in New-York markets, is pear-shaped, with deep green or dark purple skin, according to the variety. The pulp is firm, buttery yellow, surrounding a large, hard stone.

In Brazil they fill the same place as Melons in the United States, being eaten at breakfast with sugar or pepper and salt, according to taste. A liking for Abacaxe, as this fruit is called in Brazil, is an acquired taste, but one soon becomes very fond of them. They cost only from one to three cents each, and with Oranges and Bananas are the most common fruit hawked round the streets by the fruit-sellers, who carry them upon their heads in large flat wooden trays.

BILIMBI AND CARAMBOLA.

These are two very pretty fruits, but of exceedingly unpleasant taste. When ripe, they are bright yellow, semi-transparent, heavily ribbed, and fleshy. The pulp is acid, with an indescribably unpleasant flavor but the native children here eat them, and, preserved in sugar or pickled, they are said to be very good. They are small trees, or rather large bushes, with pinkish-purple small flowers and pinnate leaves. The species differ in *Avershoa Bilimbi*, having many pairs of leaflets and producing the flowers from the trunk, while *A. Carambola* has but two to five pairs of leaflets, and produces the flowers on the branches.

MANGOES.

The Mango, *Mangifera Indica*, is one of the most beautiful of fruit-bearing trees. Originally from India, it has become acclimatized in all tropical countries. In Brazil it grows to a large size, but we have never seen trees which had attained the magnitude to which they grow in their native country.

The foliage is deep, glossy green when old, the young leaves varying from pink to deep browny-purple. The flowers are small, yellowish-pink, in branching panicles. The fruit is one-sided, dark green, but often with bright, rosy cheek; is frequently, when fully ripe, all bright yellow. The pulp is fleshy but full of fibers which cling to the seed, and as there is a great deal of juice it is more difficult to eat a Mango than a clingstone Peach. There is no fruit which varies more in quality than the Mango. The best are equal to a delicious Peach, while the common kinds have not inaptly been likened in taste to a mixture of tow and turpentine. We have never but twice tasted fruit from any tree that did not have a slight flavor of turpentine, but as one of these trees is in our own orchard and has a reputation in the neighborhood as the best Mango in Para, we can indulge our taste for Mangoes to its full extent. This fruit is, however, not considered very wholesome, and although the natives eat it freely, the stranger, until fully acclimated, should beware of Mangoes. The Mango season is from December to March, but in the climate of Para this fruit, like many others, can be had in greater or less quantity at all seasons.

BERMUDA ONIONS AND POTATOES.

It has been about twenty years since the first shipment of Bermuda Onions in quantities to the United States, and from that time to the present the trade from year to year has increased till the shipments now reach from three hundred thousand to four hundred thousand boxes, of fifty pounds each, per annum.

The seed used is grown in the Canary Islands, and is imported in the months of August and September. It is the only seed found to answer the purpose, as it matures earlier and produces a mild Onion. Italian, Portugal, and Madeira seed has been repeatedly tried and found not to answer, being too late to command a remunerative price in the American market. The seed is sown in the months of September, October, and November, thickly in beds, the ground having been heavily manured with stable manure two or three months before sowing. The seed of the white Onion is sown first, and produces the earliest crop, the shipment of which commences in March.

When the plants are sufficiently large — about six or eight inches high — they are transplanted into beds about four feet wide, the plants being set about seven inches apart each way. The white variety can be transplanted as early as the plants are large enough, and the ground can be made very rich. Those of the red should not be transplanted before the first of January, and the ground requires to be only moderately manured. If transplanted too early, and the soil is too rich, the bulb is likely to split into several pieces, and is worthless. After transplanting, the soil requires to be lightened once or twice, and the weeds removed before they mature. As soon as the top begins to fall they can be pulled, and should lie on the ground two or three days, or until the tops are wilted, when they are cut and packed in boxes of fifty pounds each, and sent to market, and sold or delivered to an agent, who ships them on the producer's account.

The earliest usually command the best prices, and they are frequently pulled before they are ripe,— cut, packed, and sent to market the same day. Such Onions, if care is taken in packing, as it usually is, are deceptive in appearance, and after a few days they become slack in the boxes, with long sprouts, and when opened are unsatisfactory. When the crop is large and the market good, a large profit on the outlay is realized,— an acre of ground sometimes returning $600 to $800; but the business is to a great degree hazardous, particularly when the crop is a large one, as the only market is the United States.

Potatoes are more certain of finding a remunerative market than Onions, but require more labor and outlay to produce them. The seed was formerly nearly all imported from the United States, but of late years has come largely from New Brunswick, Nova Scotia, and Prince Edward Island, as it can be obtained cheaper from those places, and is found to answer as well. The first crop of Early Rose, which is usually a small one, not averaging over four barrels from one of seed, is planted in October, and is taken off in time for the second or principal crop, which is planted in January or early in February. The seed for this crop is almost wholly the Red Garnet, and ten from one is considered a good return, although much more is sometimes obtained.

The Potato requires a deep soil, well manured and sheltered from the high winds; and as a large portion of the ground susceptible of cultivation is too much exposed to the winter gales, and manure in sufficient quantities is too expensive, most of the planters prefer raising Onions. The ground for Potatoes is usually plowed, or spaded and raked, the seed cut into pieces with one or two eyes, and planted by forcing into the ground with the fingers to the depth of about four inches, in rows about twenty inches apart and about eight inches in the rows. From six to eight barrels of seed are used to the acre. When the plants are a little above the ground the soil is lightened between the rows with a fork, and when about six inches high the earth from between the rows is hoed around the plants. Only one hoeing is required.

The Potatoes grown here, if left in the ground until fully ripe, are of a superior quality; but as a few days oftentimes make a great reduction in the market value, there is an incentive to get them to market as early as possible, and a large portion of the crop is shipped before it is ripe, not only injuring the market value, but the reputation as well. — *United States Consul Allen, in N. Y. Evening Post.*

DECORATIVE TREE PLANTING.

The Commissioners of the Woods and Forests, of England, are trying to plant a large extent of crown lands in the Isle of Man with forest and ornamental trees. The experiment, which is watched with interest not only by those who follow sylviculture as an art but by the many who regard with apprehension the gradual denudation of forest and woodlands, leads *Land* to comment on the growth of a taste for planting; for transforming into artistic plots grounds which are ill-favored and uninviting; for digging lakes and forming cascades, resulting in magnificent combinations of sylvan charms.

"Color, expression, form, variety, are all within the reach of the landscape gardener. Trees and shrubs lend themselves most readily to the harmonious combinations of the true artist. Whether in shape, coloring, or growth, they are always sufficiently distinguished for the purposes of variety. Yet it is always possible to select trees of one kind distinguished only by characteristic marks, as a young Beech, a Birch, and a Larch, all pendant, though in different degrees, which will form a beautiful mass where unity is preserved without sameness."

Horticultural Societies.

AMERICAN POMOLOGICAL SOCIETY.

The Pennsylvania Horticultural Society having invited the American Pomological Society to hold its next meeting at Philadelphia, the President, the Hon. Marshall P. Wilder, gives notice that the nineteenth session of this national association will be held in that city, commencing Wednesday, September 12, 1883, at 10 o'clock A. M., and continuing for three days.

This session will take place at the time of the fifty-fourth annual exhibition of the Pennsylvania Horticultural Society, at Horticultural Hall, Broad near Locust street.

All horticultural, pomological, agricultural, and other kindred associations in the United States and British Provinces are invited to send delegations as large as they may deem expedient, and all persons interested in the cultivation of fruits are invited to be present and take seats in the convention. It is expected that there will be a full attendance of delegates from all quarters of our country, and that this will be the largest and most useful meeting ever held by the society.

When we consider the great importance of fruit culture in North America, its rapid progress during the last thirty-five years under the beneficent action of this society, the great value and rapidly increasing demand for its products at home and abroad, we feel warranted in urging the attendance of all who are interested in the welfare of our country, and the development of its wonderful resources in this branch of agriculture.

Arrangements have been made with hotels and some of the railroads terminating in Philadelphia for a reduction of fare. In most cases it will be best for delegations to arrange for rates with the roads in their localities.

A local committee of reception has been appointed, to whom are confided all matters pertaining to the reception and accommodation of the members and delegates of the society. The chairman is Hon. J. E. Mitchell, 310 York Avenue, Philadelphia.

At the last meeting of the society, it was decided in future to encourage general exhibitions of fruit as well as new varieties or novelties. It is earnestly requested that no duplicates appear in any collection, and that none but choice specimens shall be placed on exhibition. Exhibitors should not fail to give notice, as far as possible, at an early date what room will be needed for their fruits. Six specimens of a variety will be sufficient, except in fruits of unusual interest. A limited number of Wilder medals will be awarded to objects of special merit.

Packages of fruit should be addressed to Thomas A. Andrews, Horticultural Hall, Broad street, Philadelphia, for the American Pomological Society. Freight and express charges should be prepaid.

All persons desirous of becoming members can remit the fee to Benjamin G. Smith, Treasurer, Cambridge, Mass. Life membership, twenty dollars; biennial, four dollars. Life members will be supplied with back numbers of the proceedings of the Society as far as possible.

NEW-YORK HORTICULTURAL SOCIETY.

The April exhibition of this society, held on the 3d of the month, at Horticultural Hall, 26 and 28 West Twenty-eighth street, was eminently successful. Favored by the most inviting spring weather, a very large number of persons visited the hall,—too many, in fact, to enable one to examine comfortably the many choice exhibits which loaded the tables. The interest which the flower-loving inhabitants of New-York take in horticulture is evidently increasing rapidly, so that in the near future it will probably be found advisable to hold these exhibitions semi-monthly, if not weekly, during the spring months.

To describe or enumerate even all the meritorious exhibits would far exceed the limits of our space, and we can only name a few of those which attracted our special attention. Close to the entrance, at the head of the center-table, Messrs. Woolson & Co. displayed a charming collection of hardy perennial plants in bloom, among them many rare Alpine plants and several varieties of the new *Primula Sieboldii*, varying in color from pure white to deepest red. In general appearance these resembled somewhat the Chinese Primrose, but are smaller and more graceful in flower and foliage; they are adapted for outdoor as well as pot culture. Mr. Charles Webber exhibited six Cinerarias, which, in variety and delicacy of color, as well as size of flowers, exceeded any we have yet seen; some of the flowers measured two and a half inches in diameter.

The Orchids shown by several exhibitors were truly superb. Those from Mr. George Such, of South Amboy, N. J., were remarkably well grown, and attracted deserved admiration. Among them we noticed: *Dendrobium Cambridgeanum*, with bright, golden-yellow flowers, each of which has in the center a large blotch of very dark crimson. *Dendrobium crassinode*, deriving its name from the thick joints which stand out at intervals of about an inch. The flowers are creamy-white, tipped with purple. *Dendrobium crepidatum.*—This produces on its drooping stems many lovely flowers of white, or blush-white, tipped with pink, and having a yellow blotch on the tip. These flowers last in perfection for a month or more. *Dendrobium chrysotoxum.*—An evergreen Orchid, throwing out from the top of bulb, or stem, a spike, containing numerous light-yellow flowers of great beauty. *Dendrobium Devonianum.*—The exquisitely beautiful flowers of this Orchid are produced from long, drooping stems; the blossoms are white, stained with pink and purple, the lip having two large blotches of orange-yellow. *Dendrobium thyrsiflorum.*—Evergreen; it produces enormous clusters of flowers, which are white, with an intensely rich yellow center. The plant had six clusters over a foot in length, each containing over fifty single flowers. *Dendrobium Wardianum.*—This Orchid, like all those mentioned above, comes from the East Indies. It produces, from long, drooping stems, many flowers of large size, being three or four inches in diameter. They are white, tipped with lilac or purple, the lips being blotched with orange and deep crimson. *Angræcum citratum.*—A small Orchid, from Madagascar. It sends out long spikes of creamy-white flowers, set in a close double row on the stem. *Cymbidium Lowianum.*—This has long and narrow bright-green leaves. The flowers are on a long, drooping spike, their color being yellowish-white. There is a deep band of maroon or crimson-maroon on the lips of each flower. *Cypripedium biflorum.*—This is one of the large family of *Lady-slippers*, but it is rather rare. The name *biflorum* comes from the fact that the plant often has two flowers on one stem. The color of the flowers is a fine mixture of shades of brown, purple, green, and black, all set off with white. They last for fully two months.

Roses were, of course, in full force; and if we have ever seen better *Cornelia Cooks*, *Catherine Mermets*, *Perle des Jardins*, and *Niphetos*, than those exhibited by Mr. John Smith, gardener to Mr. James B. Colgate, it has slipped from our memory. Mr. Joseph Dunbar exhibited six pots of remarkably well grown and prolific *Seth Boyden* Strawberries. A large number of *Anthurium Scherzerianum* (Flamingo plant), which attracted much attention; Carnations, Geraniums, Azaleas, Pansies, Violets, Lilies, and Lilies of the Valley, Cyclamens, Lilacs, and many of them of great excellence, made up the remainder of this gorgeous show.

The paper on "Management of Lawns," by Mr. Charles E. Parnell, assigned for the day, will be published in the proceedings of the Society. The next exhibition will be held on the first Tuesday in May, and promises even greater attractions than this one.

MICHIGAN STATE HORTICULTURAL SOCIETY.

This excellent society has for some years been awakening sentiment looking toward the ornamentation of country school premises, and to some purpose, as shown by the many school grounds that have been embellished with flowers. From a circular just received from *Secretary Charles W. Garfield*, it appears that the society is not disposed to give up the work by any means, but proposes this year to offer an additional inducement in the way of premiums to the school districts that will make the best exhibits of flowers produced under the care of the children upon the school premises. The following is the exact wording of the offer as it will soon appear in the premium list:

"For the largest and best collection of cut flowers grown by pupils in school grounds of any school-house in any district in this State: First premium, $15; second premium, $10; third premium, $5; fourth premium, $3."

The State Fair, where the flowers are to be exhibited, will be held in Detroit in September next, and the State Horticultural Society will undertake to receive the flowers, display them, and see that a proper viewing committee passes upon the relative merits of the various exhibits.

This is a most praiseworthy undertaking, deserving imitation in every State of the Union. The bringing about school-children a variety of trees, shrubs, and plants will awaken observation, lead them to become better acquainted with the things about them, and quicken their tastes in appreciation and employment of simple, natural objects in the embellishment of not only their school-grounds, but their homes.

The school-teachers in rural schools should heartily coöperate in a scheme of this sort, and will quickly see that herein lies a pleasant field of instruction, in which pupils and teacher can take the keenest enjoyment.

Miscellaneous.

BIRDS IN THE GARDEN.

Those who devote their gardens to the growing of flowers exclusively deprive themselves of a large share of its pleasures. I would as soon be without flowers as without birds, and therefore cultivate both. A thicket of shoots around a Morello Cherry tree, and a bush fence long one entire side of the garden, with its grassy coverts that never know scythe or sickle, are entirely devoted to the accommodation of birds. And I am very successful, too, for birds are canny folk, and know their friends; they throng about my grounds, and do half of my work for me,—the most disagreeable part,—the catching of caterpillars, beetles, and worms of all sorts.

The song-sparrows are my most useful assistants, as they remain all the year round, and, by feeding them in the garden-beds in winter, they become domesticated, and haunt them all summer. I have had no English sparrows until this spring; but a few days ago I saw a pair of my half-tame song-sparrows chase two male English sparrows from the feeding-place under my window. I beheld the rout of the intruders with great joy, you may be sure, and I do all I can to drive them off; but the food, always lying ready for my own sparrows, attracts them. They drove the bluebirds out of the garden, the other day, whereat I was most indignant, for I dearly love the gentle creatures. I have never seen a bluebird fight: they always retire before the least show of animosity. I hope my fine cock-robin will take the English sparrows in hand, for he is a gallant fellow, and seems to consider the garden his especial property. But, for pluck, the song-sparrows are unsurpassed. I saw one of them chase a mouse away from their corn-meal last summer. I put dry corn-meal in little heaps about a water-dish, and the sparrows eat it all summer. Cat-birds, too, are fond of meal — or, at least, they will eat it before fruits are ripe.

My cat-birds are almost as tame as the sparrows, and are very amusing and useful. They have an especial liking for a large, green caterpillar, that I do not care to meddle with myself. They also eat ants, and are very expert at catching beetles and other winged things. They do not come until May, and leave in September, and the garden always seems lonesome after they are gone. They raise two broods, of four birds to a brood; so that in September, when both broods come off safely, I have ten cat-birds feasting in my Wild-Cherry tree. This Wild-Cherry tree is a very attractive object to the birds. The golden-winged woodpecker is fond of the cherries. The robins also prefer them to grapes, which are ripe at the same time.

The tree stands quite close to the house, so that I can observe the habits of the birds quite at my ease.

Many wood-birds visit my garden that I do not know the names of. Last spring, for the first time, I saw a scarlet tanager. I did not go in quest of him, he came to me and staid about my garden for several days. He fairly illuminated the place, and the common garden-birds seemed rather plain and homely while he was about. The white-crowned sparrow always spends a few days with me when returning from the South, and partakes of my homely fare of corn-meal and bread-crumbs along with his little cousins; but how proudly he carries his head! He really seems to know there is a crown upon it.

The goldfinches are dainty little things, as gay as the butterflies, and if you have plenty of Columbines and let them go to seed, the goldfinches will find them out and come to see you every day, and they will also apply themselves to your aphides, if you have any. I have often watched them eating the latter on the Cherry tree near my window.

The care and companionship of birds offers a never-failing source of enjoyment to any one fond of nature, and I would advise ladies who cannot go to the woods and fields in search of them to try my plan and draw the birds to their own homes.

Jenny Dare.

WHAT THEY ATE TWO HUNDRED YEARS AGO.

An Englishman's appetite had always been famous. He was fond of good, solid eating. The farmer always had his flitches of bacon and his salt mutton on hand, in addition to salt beef and barreled herrings from Yarmouth. In all good houses there was an imposing array of salting-tubs. The art of stall-feeding was almost unknown, and fresh meat, if procurable in winter, was very lean. It cost from a half-penny to a penny per pound, which was equal to a penny or two-pence of our money. Fresh fish was the luxury of the rich, obtained from their own ponds and streams. Salt fish was a common article of diet among the working-classes.

Cakes of oats and spice were on all good tables. Pies and pastries were made of all sorts of things. Page invited Falstaff and his friends to a dinner of "hot venison pasty," wound up by "pippins and cheese."

Very few vegetables were used, and some were regularly imported and salted down. Cabbages and Onions were sent from Holland to Hull. Lettuce was served as a separate dish, and eaten at supper before meat. Capers were usually eaten boiled, with oil and vinegar as a salad. Eschalots were used to smear the plate before putting meat on it. Carrots had been introduced by the Flemings. Rhubarb, then called Patience, came from China about 1573. The common people ate turnip-leaves as a salad, and roasted the root in wood ashes. Watercress was believed to restore the bloom to young ladies' cheeks. In fact, all vegetables were regarded more as medicines than as necessary articles of food. Flesh meals were more believed in than anything else. They were eaten with a knife and a napkin. "The laudable use of forks," as Ben Johnson has it, did not commence until 1611, and was rare for many years after. The custom came from Italy, and the first forks were preserved in glass cases as curiosities. A jewelled one was among the New-Year's gifts to Queen Elizabeth. Probably the absence of vegetables had something to do with the immense potations of the time. Iago said the English could beat all other nations, and were "most potent in potting." As Tea did not come into England until 1610, and Coffee until 1652, beer or wine was taken at all meals.—*The England of Shakespeare.*

SONGS OF THE SCIENCES.

BOTANY.

What reck I, though she be fair,
If the flowers are not her care;
If she ponder not upon
Many a Dicotyledon;
If she have no admiration
For all forms of æstivation?

Let her learn, through happy hours,
Properties of plants and flow'rs;
Know how Watercress should be
Rank'd with the Cruciferæ;
How the Sundew, without question,
Darwin tells us, has digestion.

If perchance her ardor burns
For the Cryptogamic Ferns,
She will see how spores become
Cased in the Indusium,
And how wondrously you vary
Scolopendrium vulgare!

She shall calmly learn to state
Clover is tri-foliate;
And describe in words exact,
Awn and axis, blade and bract:
So shall I, in her sweet presence,
Find my love hath inflorescence.

—*Punch.*

Obituary.

CHARLES ARNOLD.

With the death of Mr. Charles Arnold of Paris, Ontario, Canada, which occurred on the 15th of last month, the country loses one of its most intelligent and enthusiastic horticulturists. He was born December 18, 1818, in Bedfordshire, England, and came to America in 1833. In early life he worked at the carpenter trade, but his taste for plants and natural objects attracted him soon to the nursery business, which he followed up to the time of his death.

Few men on this continent have done so much for the improvement and advancement of horticulture in general as Mr. Arnold. He was always a careful observer and successful experimenter, and many highly valued Grapes, Raspberries, Strawberries, Cereals, and various vegetables, are the result of his experiments in cross-fertilization. The most valuable and most extensively known of these is the *American Wonder Pea*, which, being the first Pea originated on American soil that has ever attained a world-wide reputation and recognition, marks an important epoch in the history of American horticulture. Had his life been spared, our lists of fruits and vegetables would, no doubt, have received from his hands many other valuable additions especially adapted for our climate. Two of his new Peas which have been on trial for a few seasons, and which Mr. Arnold considered superior to any existing varieties, will probably be introduced another season.

Up to within a short time previous to his death he was actively engaged in his experiments, and his communications to us, written only a few weeks before his death, and which will appear in future numbers of The American Garden, are so full of vigor and energy that the news of his death was received with painful surprise and deep regret. Those who enjoyed his more intimate acquaintance have lost a friend whose place can probably never be filled.

BOOKS AND PAMPHLETS RECEIVED.

Agricultural Review, and Journal of the American Agricultural Association, February and March numbers combined, thus forming a handsome volume of over four hundred pages. This extra issue contains the full proceedings of the last convention of the American Agricultural Association, held at Chicago. The subjects discussed embraced stock-raising and feeding, ensilage, expositions, protection, free-trade, marketing products, transportation, forestry, irrigation, fertilizers, reclaiming of waste lands, drainage, and other topics, while the writers and speakers included men of high reputation and great ability.

New Jersey State Horticultural Society; Proceedings at its annual meeting, held at Freehold, January 9th and 10th, W. R. Ward President, E. Williams, Montclair, N. J., Secretary. The meetings of this society are always full of interest, as many of the most experienced horticulturists of the country are among its members, and take an active part in the discussions and management of the society.

Among the most valuable papers read and published in this volume are those on Asparagus Culture, by E. Beekman; Floriculture for the Young, by Dr. J. B. Ward; Violets, by Mrs. J. D. Meech; Lilies, by C. L. Allen: Clematis, by George C. Woolson; Insects Injurious to Fruit, by Mrs. Mary Treat; Fungi Injurious to Small Fruits, by Dr. B. D. Halsted; Plant Food and Plant Diseases, by A. W. Pierson; Horticultural Societies, by C. W. Idell. The membership to the society is one dollar, which entitles the member to this volume, worth considerably more than the amount of the annual dues.

Connecticut State Board of Agriculture; Annual Report of the Secretary, Mr. T. S. Gold; together with the Annual Report of the State Experimental Station.—This is a large, handsome volume, gotten up with remarkable care. It contains, in addition to the reports of meetings and matter of more or less local importance, many highly valuable and interesting essays and papers. Among them: The Course of Study at the Storrs Agricultural Station, by Dr. H. P. Armsby, the discussion of which elicited considerable serviceable comment upon agricultural education in general; Poultry Raising, by Miss Mary H. Reed; Fertilizers, by Dr. Sturtevant; Utility of Birds in Agriculture and in Migration, by Professor W. A. Stearns; Relations of Forests to our Climate, by E D. Goodwin; Trout Breeding, by Levi Hodges; Bee-keeping, by Alonzo Bradley; The Farmer and his Family, by Henry E. Alvord; Ventilation of Farm Buildings, by Dr. George Austin Bowen; The American Trotting Horse, by Professor W. H. Brewer; Hints Toward Small Farming, by J. B. Olcott, and others of not inferior value.

New-York State Agricultural Society.—Annual Report published by the society, as the State makes no appropriation for its publication. A large part of the pamphlet is taken up with the awards at the last fair at Utica. It contains also the most important papers read at the evening meetings during fair week, among them: Observations on the Potato, by Dr. Sturtevant; Poultry as a Farm Crop, by I. K. Felch; Silos and Ensilage, by H. E. Alvord, etc.

Report on Russian Fruits, by *Charles Gibb*, Abbotsford, Que.—This is a highly interesting and valuable pamphlet, giving in condensed form the results of the investigations of the author, in company with Professor Budd, of Iowa, during their recent tour through the fruit regions of Russia. The uncertainty of the fruit trees of Western Europe in the severe climates of Canada and our North-western States has already led to previous importations of some of the varieties grown in Eastern Europe; but the practical knowledge gained through these painstaking investigations will greatly hasten the introduction and dissemination of the best Russian fruits into regions where no other kinds could be grown successfully.

The Chatham Courier, *Chatham, N. Y.*, has recently changed hands—*Mr. J. Wallace Darrow*, formerly connected with the *Rural New-Yorker*, becoming its editor and proprietor. The *Courier* has always been a bright, practical paper, devoting considerable space to agricultural matters, and under its new management, we are sure, its high standard will not be lowered, nor will the interests of its readers be allowed to suffer.

The Kansas State Board of Agriculture Biennial Report.—*William Sims, Secretary.*—This large, elegant volume is, in some respects, superior to any similar publication, and is highly creditable to its editor as well as to the State in whose agricultural interests it is published. It presents a clear and comprehensive view of what Kansas has achieved in industrial and agricultural advancement during the past two years. Elaborate sketches of every county, accompanied by an excellent map of the State and one for each county, show at a glance everything pertaining to the State's statistics, resources, and industries. It contains also valuable papers on Geology, Botany, Meteorology, and other interesting information. To any one residing in Kansas or intending to settle there, the volume is invaluable.

ANSWERS TO CORRESPONDENTS.

Wormy Potatoes.—*Mystic.*—Worm-eaten Potatoes are just as good for seed as perfect ones, provided the eyes are not all destroyed. The worms that produce the mischief winter in the ground, not in the Potatoes. On such soils fresh yard-manures should be avoided, and fertilizers rich in potash used instead.

Hand-Cultivators.—*H. H., Whitestone, L. I.*—Any one of the several hand-cultivators offered in our advertising columns will be found of assistance in a mellow and not too stony soil. Each has its special advantages; so that it would be difficult to name *the best* for all purposes. The most efficient means for lightening the work and care of a garden is early and frequent cultivation. It is a great deal easier to prevent weeds from growing than to eradicate them after they are several inches high.

Transplanting Beets.—*N. F. W., Conn.*—Beets may easily be transplanted, and it is a usual practice to fill out rows in this way. By sowing them early in a frame, and transplanting at the proper time outdoors, it seems that they might be forwarded somewhat; but, for some reason, we have not been successful in this way. The seed sown outdoors as early as the ground was fit for sowing, produced Beets fit for use as early as those obtained by transplanting.

Grapes in England.—*R. C., Uplands, Ont.*—The statement of Professor Budd, that Grapes are not grown in "open air" in England, did not refer to vines grown on the south side and sheltered by brick walls—but to what is here understood as open air or vineyard culture without shelter of any kind, as practiced in most parts of the United States.

The growing of "wall fruits" has frequently been attempted here, but rarely with success, as the intense heat of the sun's reflection from the walls in midsummer is liable to burn both fruit and foliage.

Pistillate Strawberries.—*W., Warrenton, Ga.*—The Manchester, and all other pistillate varieties, should be planted together, with some staminate kind blossoming at the same time. One row of the latter to six rows of a pistillate variety is sufficient for fertilization. Wilson or Charles Downing are well adapted for planting with the Manchester.

Preserving Flowers.—*J. H., Berwick, Pa.*—The method practiced by German florists is as follows: Procure some white sand, and wash it until it ceases to discolor the water. Then make it hot, and mix with it a small piece of stearine. Take a fine-meshed sieve, and place it on a board. Cut your flowers, when perfectly dry, with a short piece of stem, and place them in the sieve in a natural position. Fill up carefully with sand until the flowers are well covered, and place them, if fine weather, in the open air—or, better still, in an unshaded greenhouse. In about ten days, if the weather be hot, the board may be withdrawn, when the sand will come away from the flowers.

California Lilies.—*L. M., New-York.*—We suspect that your "California Lily with the peculiar scent" is own cousin to the "Alligator Plant," the "Blue Rose," and the "Strawberry Tree," sometimes sold to a confiding public. A few weeks ago we saw, in a fashionable uptown thoroughfare, some enterprising vender offer for sale a basketful of "California Lilies," with their roots carefully tied up in moss. From a distance already we recognized our malodorous, common swamp weed, the "Skunk-Cabbage." We first looked at the adventurous Lily merchant, then at the Skunk-Cabbage, then at the well-dressed, intelligent ladies and gentlemen crowding around, eager to buy before the stock might run out, and then passed on, meditating about the high state of our civilization, modern progress, and the manifold ways of making a living.

"Barking" Trees.—*L. R. D.*—If only the outer bark, or "rind," is scraped off a tree, it generally survives the operation; but if a tree is deprived of its entire inner bark,—that immediately surrounding the wood,—it cannot live, any more than a man stripped of his skin. We await with interest the result of the experiment.

The Naomi Grape.—In answer to several inquiries about the hardiness of this variety, Mr. L. G. M. Smith, of this city, says: "The vine I planted in 1881 has made a fine growth. It has not had any protection in winter, and has not been injured by the cold. Last year it gave me a fine bunch of fruit, which was beautiful and of excellent flavor. I am very much pleased with it."

Azaleas in Summer.—*C. B. T., Westport Conn.*—The plants should be placed out doors in an airy, partially shaded situation, but not under trees. If the pots are well filled with roots, the plants should be re-potted in slightly larger pots, in soil consisting of three parts dark peat, one part loam, and a little silver-sand, giving plentiful drainage. If the plants are unshapely, they should be pruned after flowering. Azaleas suffer greatly from over-watering; yet the other extreme, excessive dryness, should be as scrupulously avoided.

OUR EXHIBITION TABLE.

Highland Beauty Apple.—A plate of this beautiful little Apple, received from *E. P. Roe*, Cornwall-on-the-Hudson. We have noticed this variety previously, but these specimens are far more handsome than any we have seen before. It is a seedling of the Lady Apple, which it resembles in general appearance; but it is somewhat larger, and of brighter color. The flesh is white, very tender, and slightly sub-acid, almost sweet. It keeps remarkably well, and as a dessert fruit it will, no doubt, be in considerable demand.

The Hon. D. F. Beatty, *of Washington, N. J.*, the manufacturer of the celebrated Beatty organs and pianos, has just been elected mayor of his city for the fifth consecutive term, disproving the old proverb that "a prophet is without honor in his own country."

Slug Shot.—*B. Hammond & Co., Mount Kisco, N. Y.*—We have received a pamphlet giving directions for the use of this excellent new insecticide, and many testimonials as to its efficiency. We have used "Slug Shot" in large quantities during several years, and have found it a sure remedy for Potato bugs and other injurious insects. Its use is less dangerous and more convenient than any other insecticide we have used.

The McTammany Organette.—*Messrs. H. C. Wilkinson & Co.*, whose advertisement appears on another page, have sent us one of their Organettes for examination; and we cannot but think that such an instrument would be highly enjoyed and appreciated in many homes where there is no one who plays the piano, or any other musical instrument requiring skill and study in the performer. Its superiority over ordinary music-boxes is that it admits of the playing of any number and variety of tunes by simply changing the music-sheets. It is neatly and substantially made, and not liable to get out of order.

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Volumes I. II. and III. (present series) of THE AMERICAN GARDEN have been carefully indexed, convenient for ready reference, and bound together in a handsome heavy paper cover. The amount of useful, practical horticultural information contained in this combined volume cannot be obtained in any other single book, making it a most valuable addition to any library. Price, $1.50, by mail, post-paid, or

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One Bulb of Gladiolus Shakespeare; the best white variety.

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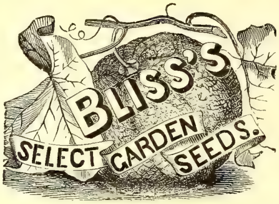

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Extra Early, Very Dwarf (8 to 10 inches), Requires no Bushing, Exquisite Flavor.

The best variety for forcing, and the best for early sowing in the garden.

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One-half pint package, 25 cts.; Pint, 45 cts.; Quart, 80 cts.; by mail, post-paid.

By express, at purchasers' expense: Pint, 35 cts. Quart, 60 cts.; Half Peck, $2.25; Peck, $4.00. Price for larger quantity on application.

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The following new varieties, which we now offer at greatly reduced prices, are considered the most beautiful and gorgeous Gladioluses ever introduced. By combining them in the following collections, we are able to furnish them at extremely low rates. No change or substitution can be made at these prices, nor can collections be broken:

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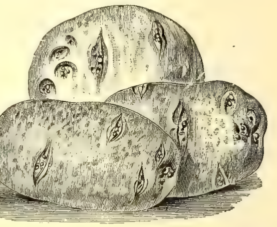

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Rosy Morn, **Rubicund,** **Tyrian Purple.**

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American Giant, **Adirondack, etc.**

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All those who grew it last year are unanimous in their praises, and declare it "The best Dent Corn grown." The kernels are white, large, broad, and heavy, and inclined to shrink less than those of other kinds of Dent Corn. The yield is enormous, one hundred bushels of shelled Corn being an average yield under good cultivation, while one hundred and fifty bushels per acre, and over, have been produced in favorable seasons. We are confident that no variety more desirable for the Southern and South-western States has ever been introduced. Price, 25 cents per packet; 60 cents per pint; $1.00 per quart, post-paid, by mail. $2.00 per peck; $6.00 per bushel.

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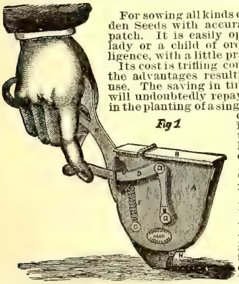

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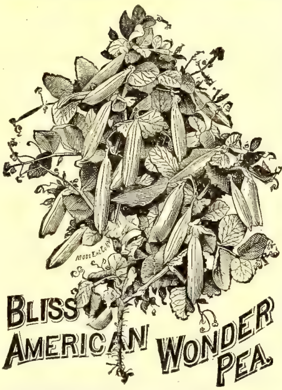

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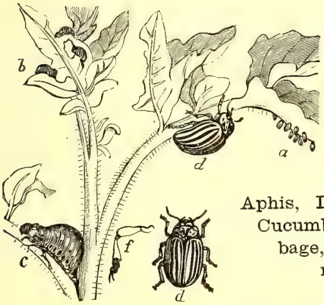

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Potato Bugs, Chinch Bugs, Rose Bugs, Slugs,

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When plants are small, about 20 pounds are needed; or, *take a handful and throw it over each hill, covering the leaves.* It does no harm to plants, but, on the contrary, invigorates them greatly.

The color and odor of **SLUG SHOT** prevents it in any way being mistaken or used for wrong purposes, and its composition is such that it is out of the question for a human being or quadruped to take enough to do any harm. Mr. Hammond, *the originator,* and his men *have worked days and weeks in it without any ill effects whatever.*

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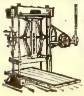

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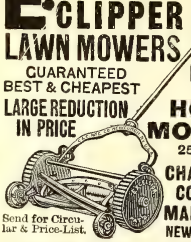

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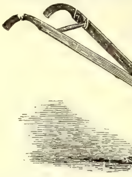

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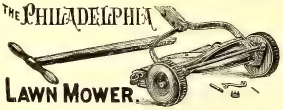

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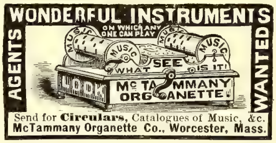

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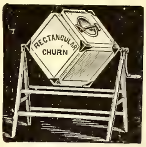

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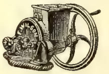

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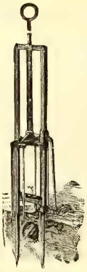

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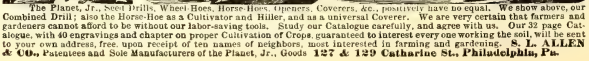

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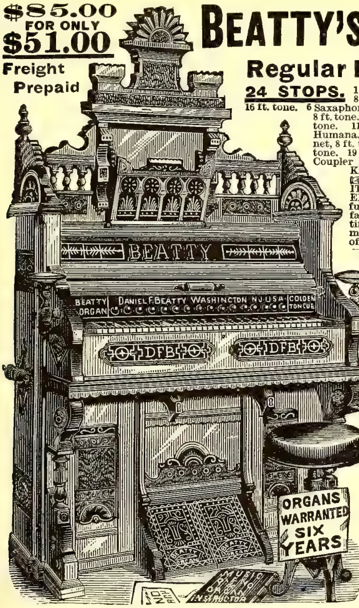
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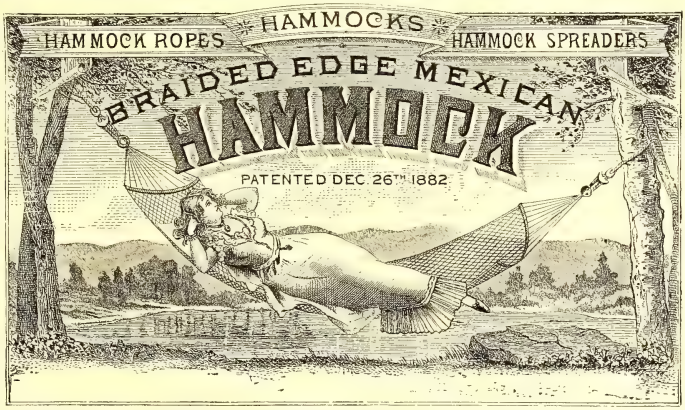

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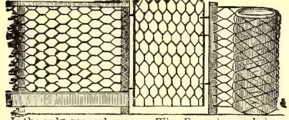

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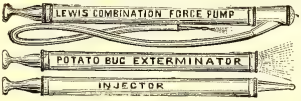

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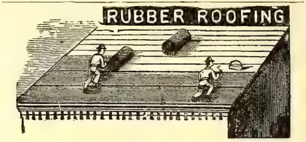

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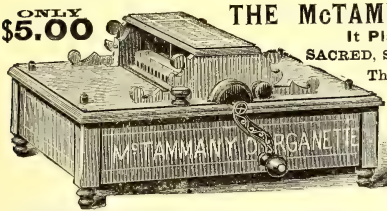

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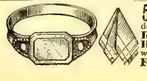

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THEO. F. HOLMAN, Slatersville, Providence Co., R. I., November 7, 1882, writes:

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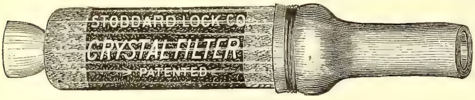

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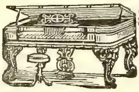

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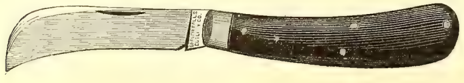

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Every reader of THE AMERICAN GARDEN is cordially invited to correspond with us on any subject pertaining to gardening and rural life. It gives us pleasure to answer all questions of general interest to the best of our ability, and short statements of experiences and experiments, or new methods which have been found of value, are always highly welcome.

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I am well pleased with the appearance and contents of the paper, and consider it one of the best authorities on the subjects to which it is devoted.—*H. S. A., Union Springs, N. Y.*

I prize THE AMERICAN GARDEN so much that I would not be without it, even if it gave no premiums. But the premiums were splendid; the American Racer is the best and earliest Pea we have ever grown.—*J. L. H., Woodington, Ohio.*

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The Vegetable Garden.

SEASONABLE HINTS.

Peas and Corn.—We have for several years adopted a plan of sowing Sweet Corn in connection with Peas, which proves so satisfactory that we cannot too highly recommend it to our readers. At every sowing of Peas, which in a well regulated garden should occur every week or ten days, Sweet Corn is dropped in the same drills with the Peas, about four to six inches apart. In the earliest sowings the Corn comes up slower than the Peas, and thus receives from their foliage some protection against cold; while Corn sown separately and not protected in this manner will often freeze. When a few inches high, the Corn is thinned out to twelve inches apart, and as it does not make its main growth until the Peas have completed theirs, it does not interfere with them in the least, receiving its cultivation simultaneously, and producing a full crop without additional ground or labor whatever. This method is, of course, not practicable with tall growing and late Peas, but with *American Wonder* or other dwarf varieties it works to perfection.

Tomatoes.—To have Tomatoes *early* is the great aim of every ambitious gardener, and to attain this desirable object many suppose they must set out their plants as soon as the ground is ready. This is in some respects correct, but the ground is not ready or fit for Tomatoes as early as for Cabbage and Lettuce. The latter are nearly hardy, while the Tomato requires a tropical climate, which it cannot find here much before the first of June, and attempts to acclimatize the delicate, tender hot-bed plants to our frosty May winds result frequently in disaster. Strong, healthy, potted or "pricked out" plants, set out the first of June in well prepared ground, will generally make more rapid, uninterrupted growth and produce earlier fruit than plants set out weeks before. If the plants are "drawn up," that is, have long, bare stems, they should be laid slanting in a trench or furrow, and all but a few inches of the top covered with soil.

Cucumbers for pickling are planted in the pickle growing regions of this vicinity from the twentieth of June to the first of July, and sometimes even later. In field culture they are sown in hills about four by five feet apart, and cultivated both ways until the vines interfere; in the garden they may be grown in drills alongside of other vegetables. Ground from which a crop of early Peas has been removed furnishes a suitable place for pickles. Plow a deep furrow, spread some old decayed manure on the bottom, tramp down, cover with two or three inches of soil; on this scatter the seeds two to three inches apart, press down with a hoe and cover with an inch of soil. After the plants are up and the vines commence to run, thin out to a foot apart, and keep the ground hoed and free from weeds. To obtain the largest yield of pickles, they have to be picked as soon as they are of proper size, and none should be allowed to go to seed. If seed is to be saved, a few vines from which no pickles are to be picked should be reserved for this purpose. A single vine produces only one or two Seed Cucumbers.

THE PEA WEEVIL.

How to raise Peas free from bugs is a topic always foremost in the minds of those who make seed growing a business, and my experience in this connection, which proved conclusively that the insects—at least, all of them—do not remain in the Peas until planting time, may be of interest to the readers of THE AMERICAN GARDEN.

My crop of Little Gem Peas, of which I gave an account in a previous number, was thrashed and winnowed on the 22d of August, amounting to sixteen and a half bushels, and stored in barrels. The weather was very hot, and in less than a week I discovered that the weevils were full grown, and many had already eaten a hole through their prison to enjoy their liberty.

"Well," thought I, "the enemy means to beat me this time. He means to hibernate somewhere just as the Squash bugs do, and come in swarms on my next year's crop; I must stop in the midst of this busy season and attend to him, if I do not mean to surrender ignominiously."

So I dropped everything and went for him. I filled a tub with strong brine, and beside it placed an open barrel full of fresh water. I then procured a tin colender, about a foot deep, that would hold a peck or more. Putting a few quarts of the dry Peas into it, I let it stand in the brine, which was not deep enough to run over the top of it. This was not exactly for the purpose of killing the bugs, but to separate the buggy Peas from the sound ones. The Peas containing bugs, I thought, would naturally be specifically lighter than the sound ones, and to my great satisfaction this proved to be the case. I immediately skimmed the floating ones into a pail, and the good Peas that remained in the bottom I lifted out, letting them drain a little, then dipped in the fresh water to wash off the salt, and spread on mats to dry.

Not half of the bugs had opened the doors of their cells yet, but they could not escape from this final judgment. They were weighed in the inexorable balance of specific gravity, and found wanting, and their judgment consisted in death by scalding water. In this way I separated three bushels of buggy Peas from my sixteen and a half bushels, and the remaining ones were as nice and clean as any one would care to look upon; and the thought has occurred to me that this process, thoroughly applied at the proper season, might bring again into fashion Pea soup as an article of diet.

Although this is probably as easy and effectual a way of cleaning Peas as any, sound seed does not insure a sound crop if bugs have been bred in the neighborhood the year previous. Last season I sowed a bushel of American Wonder Peas which were remarkably free from bugs, nevertheless nearly one-third of the crop raised from them was buggy. The cause of this was easily accounted for, by the fact that the previous year several bushels of very buggy Laxton's Alphas were raised on the place, and that the bugs bred in these hibernated on the premises, and were promptly on hand to attack the American Wonder.

Another circumstance which also shows that Pea weevils will not travel far, if they can find their natural food near their birthplace, tends to prove this theory. Two quarts of this bushel of American Wonder Peas I had sold to a friend whose garden is not over five hundred rods from mine, with trees and buildings intervening. His crop had not over six per cent. of buggy Peas, while mine had thirty-two per cent., but he didn't raise bugs the year before.

Now all this seems to demonstrate plainly that a thorough destruction of the bugs one season will give entire exemption the following, provided there are no near neighbors that furnish the seed bugs; and also that by combined and concerted action of the inhabitants of a locality, this pest can be entirely banished from our gardens.

H. J. SEYMOUR.

DWARF BEANS.

When well cultivated and properly cared for, Beans are one of the most profitable early crops. But to gain the greatest return, they must be planted early enough for the first demand. Not only do they then bring higher prices and sell more readily than later, but considerable time is saved in the marketing, which is an important item in market gardening economy.

The best soil for Beans is a light loam, deeply worked over until it becomes thoroughly mellow, for upon the condition of the ground the success of the crop greatly depends. Mark the ground off in furrows two and a half feet apart, and about four inches deep; fill half full with well rotted stable manure, and plant the Beans two inches apart in the row, covering about the same depth. As a fertilizer, nothing exceeds in value well rotted manure from the stable.

The time of planting depends much upon the condition of the season; in the Middle States about the first of April will be found advantageous. There is, however, yet danger from frost, but in case of mishap it is easy to sow again, the loss of the seed being insignificant in comparison to the extra price which a successful crop may bring.

In about four days after planting, plow between the rows, taking care not to cover them; this will make the Beans come up quicker and grow more rapidly. Then go over the ground every three days with a cultivator, or as soon after as the weather permits; but never cultivate while the ground and the plants are wet. When the seed has been sown at such distances as directed, crowding of the plants will hardly take place, and thinning out will not become necessary.

To obtain a full crop, the vines must be closely picked, and in picking it will be found a great convenience to use quart baskets, which, when filled, can be placed between the rows and afterward gathered and placed in crates. These being light, compact, and easily handled, are also more convenient in the market, especially for the retail trade, than when shipped in larger bulk.

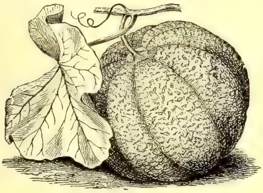
THOMAS D. BAIRD.

BAGGING TOMATOES.

Mr. E. S. Carman of the *Rural New Yorker* experimented last season with bagging Tomatoes, and found that those so treated were the most brilliantly colored, and when cooked the least acid Tomatoes he had ever seen or eaten. It was also observed that the bagged Tomatoes ripened more evenly, and about the stem as well as elsewhere. Against the rot, however, bagging afforded no protection.

MELONS FOR MARKET.

The Melon trade of New-York city is a prominent branch of business during its season. At one time, the Musk or Citron Melons sold here were all raised in the vicinity of our city, so as to reach the market in good condition; but of late years their cultivation has extended all over New Jersey and some of the Southern States.

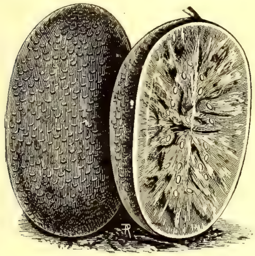


HACKENSACK MUSK-MELON.

To grow Melons to perfection requires a large quantity of manure, labor, and judgment. Poor Melons are not generally worth marketing; while a crop of choice ones is profitable. Even after the prospect of a large crop is determined, much depends upon the skill of the grower in knowing just when to pick; for if Melons are picked too green they will not ripen, and if too ripe they soon decay; consequently much of the profits of the crop depend upon the judgment of the grower in this respect. The proper time for picking a Melon can be determined by pressing upon the vine close to the fruit. If it refuses to yield, let it alone; for if it is ripe enough it will separate with a snap, leaving a slight concavity in the fruit. You will never see a choice Melon with a long stem on it, and no connoisseur will buy one with such an appendage.

Large quantities of Melons are grown in Monmouth county, N. J., as well as in Hackensack, Bergen county. The first named produces probably a larger quantity than all the other counties in the State, many farmers making it the most prominent feature of their business. Several sloop-loads are sent daily; also large quantities by other conveyances.

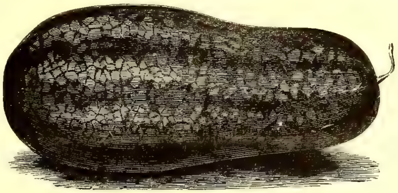
The Hackensack Melons are the best noted in market, and many a barrel of inferior stock is palmed off on ignorant buyers for the genuine. The Hackensack farmers take more pains to raise a choice article than any others, and some of these growers will not send inferior Melons to the city at any price. The distance from Hackensack to New-York is about twelve miles, so the growers generally prefer carting their crops to the city. Some pack them in barrels before starting, others load in bulk, and pack in barrels on their arrival.



SCALY-BARK WATER-MELON.

The price for the first of these Jersey Melons is about five dollars per barrel, but increased arrivals run it down to three dollars, when large quantities are sold; but as soon as the bulk of the crop arrives, and the poor stock comes with a rush, prices fall often below the cost of transportation, and I have known cases where hundreds of barrels have been dumped overboard from the boats in order to return at least the empty barrels to the growers.

The Watermelon is a great favorite in our market. A few years ago New Jersey furnished all that was received, and then we thought we had a great many, but now its cultivation has extended largely over the Southern States, Virginia and Maryland sending them by hundreds of boat loads. At one time during last season there were fifty-six boat loads lying on the flats opposite the city, waiting for others to sell out and take their berth so as to sell their cargo. Florida sends us the first Melons; then Georgia, but owing to the loss of breakage *en route* great care is necessary in handling them, and only choice stock can be shipped profitably such great distances.



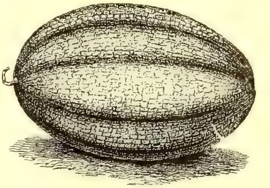
MOUNTAIN SWEET WATER-MELON.

On arrival in our city large quantities of Melons are sent to other large cities and towns wherever there is communication by water—to Albany, Troy, and all the river towns of this State, as well as the Eastern cities, and not a few boat loads full are consumed at the fashionable sea-side resorts and large summer hotels.

C. W. IDELL.

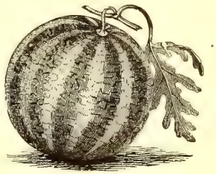
RELATION OF SEED TO THE POTATO CROP.

So far as the experience of one year can determine, all the data obtained by the experiments of Dr. E. L. Sturtevant, at the New-York Agricultural Station, and from whose report the following is condensed, go to show that the character of the seed used is an important determining factor of the crop gained; that single eyes have yielded better results than whole Potatoes used as seed, and that the form of the cutting seems more influential than the size of the cutting. In the experiments carried on under glass, under circumstances which give warmth of soil and uniformity of conditions, together with the soil richer and in better physical condition than is usually obtainable in the field, the results obtained seem to indicate that, under these circumstances, the size of the seed and the growth of the top have no correlation. The small seed may give large top, and the large seed small top, or *vice versâ*, the character of the growth seeming to be more influenced by the position which the eye held upon the Potato than upon its size. The data all go to show that the roots thrown out by the shoot absorb their nutriment for the plant from the ground, rather than that the plant absorbs nutriment from the seed. In no case was the structure of the seed found broken down through absorption; and where destruction of the seed has occurred, it has come about through ordinary decay, commencing at the extremities. And yet, despite this non-appearance of absorption, the shape of the cutting with reference to the structure of the Potato seems to have some influence. Under conditions of greenhouse culture, the province of the seed seems rather to be to initiate growth than to support growth after it has become once established, while yet there seems an obscure relationship between the form of the seed used and the prolificacy of the plant in tuber.



CASABA MUSK-MELON.

While in the greenhouse, under artificial conditions, a small eye seems as potent as a large one; yet, in the field, we have different circumstances, and small eyes are liable to perish before the plant becomes formed. Under circumstances of poverty of soil, or its equivalent, a very poor physical condition of the soil, we see what seems to be evidence that absorption from the seed into the plant takes place; and, under these circumstances, it seems probable that size of seed may have an influence upon the crop grown. This question of apparent absorption from the seed seems to be quite an important one, and attention is called to the use of the words "apparent absorption," as meaning a visible change in the seed during the growth of its plant, which appears evident to the eye through the disappearance of tissue from the disintegration of the substance of the seed, and that those remarks have no reference to that absorption which may take place without leaving visible traces. The conditions of this absorption we do not yet understand. In some cases the seed remains intact throughout the whole growth; in other cases absorption takes place at an early period, while often disappearance of the seed takes place through a process of rotting rather than one of absorption.



CITRON WATER-MELON.

[We know an instance in which a tuber remained sound all summer and sprouted again the following spring.—ED.]

The Fruit Garden.

SEASONABLE HINTS.

The unusual lateness of spring has caused the accumulation of a great amount of work, with but a short time for its performance. Consequently, many things are done hurriedly and carelessly, resulting in failure, which, with sufficient time and care bestowed on them, might have proved successful.

In *Planting Trees*, the fact that success depends more on the condition of the tree at the time of planting than on the earliness or lateness of the season is too frequently overlooked. A tree or shrub that has been dug early in spring, properly cut back, carefully heeled in, and kept in a cool place, is on the first of June in better condition for planting than one taken from the nursery row and planted some weeks earlier. All plants accommodate themselves in a great measure to the conditions and variations of seasons. If the season is early they develop slower at first, while in a late one, when it does open, they make haste to "catch up"; so that one season with another there is but little difference in the time of maturity.

Heeling-in of trees provides for them an artificial late season, retarding their development and fitting them for immediate growth when set out. How long plants may be retarded was shown by a shipment of trees made by Messrs. Ellwanger & Barry, of Rochester, to Australia some years ago, before we had direct steam communication. The box containing the trees was accidentally delayed at several points, so that it did not arrive at its destination till just one year after leaving the nursery. Yet the trees, having been packed in the careful manner customary at that establishment, arrived in good condition, were planted, and lived, having actually been kept dormant for an entire year of their lives.

Barked Trees.—The statement in a previous number, that trees deprived of their entire bark all around the stem could not live, was, of course, meant to imply, if left to themselves without remedial agents. It is well known to fruit growers that by bridging the gaps with new wood so as to reëstablish the interrupted circulation through the bark, the trees can generally be saved, as shown by the experience of Mr. D. R. Cudney, of Canada. He says:

"Four years ago I had a fine, large Apple-tree completely gnawed by mice to the hard wood; not a particle of bark remained. About grafting time I took from another Apple-tree some suckers the size of a goose-quill, cut them off square at both ends, long enough to reach below and above the gnawed parts. Then with a small half-inch gauge I cut in deep enough to insert my grafts, being careful to have them long enough to fit snugly. Four years have passed; it has borne fruit three years, and a finer tree I have not in my orchard. The stem is perfectly smooth, showing only a little enlargement where the grafts were put in."

Strawberry Picking commences in this vicinity with the second week in June, and those who have not already done so should lose no time to place straw or some other mulch around their bearing plants.

INDOOR GRAPE CULTURE.

PRUNING.

If the vines have made a strong and vigorous growth the first year, and their wood is well ripened, about four feet of cane may be left when pruning for the second year. This pruning may be done any time before spring, while the vines are dormant. Cut back the side shoots to the eye at their base made during the previous season, and the main shoot, if strong, to about four feet; if weak, cut back further. The stronger the growth, provided it is well ripened, the longer may it be left. The chief point to be observed is to try as far as possible to get all the eyes on the shoot left, to start into growth, so that there shall be no deficiency of fruit spurs. Pinch back the side shoots to the second eye from the front, and allow the leading shoot to make all the growth possible, pinching back the laterals as recommended for the first year's treatment.

Only a few branches should be left to mature on a vine the first year of fruiting, and on weak vines not more than is necessary to ascertain that the varieties are true to name.

It is bad policy to fruit young vines too heavily, although when they are strong and healthy two-year old vines may be fruited, sometimes, without apparent injury. Some years ago I had on a two-year-old vine of Victoria Hamburg four bunches of Grapes, one of which weighed five and one-half pounds, and the berries of all of them were uniformly large and well colored, for this variety. This heavy fruiting did not apparently affect the vines after vigor.

THINNING THE FRUIT.

As soon as the fruit is all set on a vine, thin out all superabundant bunches, leaving the best shaped and those most evenly distributed over the vines. Thinning of the berries should be done when they are about the size of Peas; cut out all crowded berries, giving those left sufficient room for full development. Do not handle the bunches much, nor allow anything to rub against them, as this is apt to cause a rust on the skin, and checks them from swelling.

Maintain during the time of growth a good, strong, moist heat, especially for Muscats. When coloring of the berries begins give an increase of air, as the flavor of the fruit depends a good deal on the amount of air given during the time of maturing. At the same time syringing the vines should be discontinued, and the air in the house kept as moist as possible.

INSECTS.

If a moist atmosphere is not kept up during this period, that worst of all pests on Grape-vines, the *red spider*—which is much easier prevented than cured—gets a foothold. An over-dry atmosphere is the life of this pest, while a moist one is detrimental to its increase.

I have often noticed remedies for the destruction of this pest given by writers on Grape-vine culture, but I do not believe there is a cure for it after it gets a foothold.

Another pest which often infests Grape-vines is *thrips*, which can be destroyed by a succession of fumigations. A single application does no good, as the tobacco fumes affect only the mature insects, and then only when used strong.

To prevent *mildew* a liberal sprinkling of sulphur should be kept on the hot-water pipes and elsewhere about the house. A rush of cold air, striking violently against the vines while the temperature of the house is high, will often cause a severe attack of mildew. Therefore, while giving all the ventilation necessary, all sudden changes of temperature should be scrupulously guarded against.

I find one of the best preventives for mildew is the giving of a little top air during nights, from the time the fruit is set. When the house is syringed in the afternoon, shut up close for two or three hours, then open several of the top ventilators just a little, and let them remain open during night, unless the outside temperature is very low. MANSFIELD MILTON.

WHEN TO PICK FRUITS.

Housewives, as well as growers and marketmen, often complain that fruits do not keep in good condition, and various causes are assigned for this. One of the most prevalent and the least understood is that of showers or rains just before picking. The amount of increase in bulk, size, and weight that rains impart to fruits is not fully ascertained; yet it is a well known fact that in boiling maple sap to make sugar one hundred and twenty gallons of sap after a wet fall and winter will produce no more sugar than one hundred gallons after a dry season.

In Strawberry culture berries of great size can be produced by irrigation, though the increase is but dropsical. Recent experiments have shown that Strawberries picked after a heavy rain shrink ten per cent.

Grapes, also, lose in bulk and weight under similar circumstances. A bushel of Grapes weighs about forty pounds when picked and packed after a rain, decreasing afterward from two to four pounds to the bushel.

These facts tend to show that at least ten per cent., both in bulk and weight, may be imparted to fruits by showers or rains, and will readily account for berry baskets not being full after having been packed a day or more.

Much of the ill success in the preserving and keeping of fruits may also be ascribed to this cause.

To have fruits, which are said to be "only condensed sunshine," in perfection, and best condition for long keeping, they should be picked in clear weather, after the dew is off, and before the heat of the day, and then stored in a cool, dry place where a current of air passes over them. J. B. ROGERS.

PLANTING RASPBERRIES IN SUMMER.

Although the best season for planting Raspberries is autumn or early spring, there is still a loop-hole left for those who have been neglectful and yet desire to have fruit next summer. The young sprouts which spring up freely around old Red Raspberry bushes may be taken up now and transplanted with safety, provided proper care is taken. A cloudy, damp day is necessary for the operation. Soak the ground well, then dig out the sprout with a solid lump of soil, and carry on the spade to the hole previously dug for it; plant carefully, water again, and shade for a few days. Such plants will produce a fair crop next summer.

THE CHAMPION QUINCE.

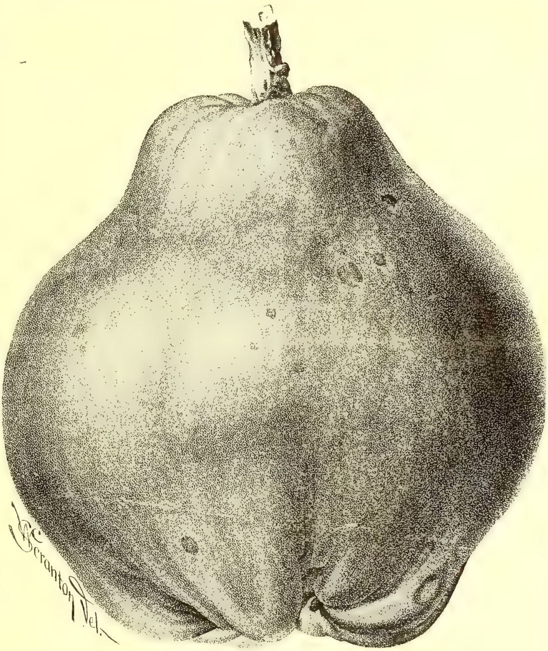
The general neglect into which Quince culture has fallen has resulted in great scarcity of the fruit and consequent high prices. A well managed Quince orchard in full bearing is about as profitable an investment as a fruit grower can have, and when it is considered that almost the only obstacle in Quince growing consists in the preventable attacks of the borer, it seems strange that more attention is not given to its cultivation.

The borer enters the stem near the surface of the ground, working its way upward, and anything that protects the few inches of stem above the soil insures the trees against its ravages. The best and easiest way to accomplish this is to dig down to the branching off of the roots, and wrap and tie a piece of tarred paper, reaching not less than six inches above ground, securely around the stem, and level the soil around it. Of course, a careful examination has to be made that the borer has not already made its home in the stem, in which case it should be destroyed by pushing a flexible wire up into its track before applying the paper.

The list of varieties of Quinces is not large, and any real improvement in this direction will meet due appreciation.

The *Champion* is now attracting considerable attention from fruit growers. It originated in Fairfield County, Conn., some eight or ten years ago, but has not come into general notice until lately. The tree is a strong, free, upright grower, producing mostly a single stem with smooth bark, resembling in general appearance a standard Pear tree more than a Quince bush. It is extremely hardy, and has the characteristic tendency to bear early, yielding good crops the third and fourth year. The fruit is large, handsome, of bright yellow color, more tender and uniform than the older kinds, and in flavor equal to the best. It ripens about two weeks later than the Orange Quince, and keeps in good condition for a long time. From all that we have seen and heard of this new variety, we consider it a valuable addition to our fruit list.

[For the accompanying excellent illustration, drawn from nature, we are indebted to *Mr. W. C. Scranton, 76 Chambers street, New-York,* who, as a designer of horticultural objects, has no superior in this country.]


W C Scranton Del.

THE CHAMPION QUINCE.

CHERRIES.

The severe cold weather of last winter injured my Cherry trees, some of them severely. The old Morellos are the only ones that did not suffer. The branchlets of the others are killed for a distance of from one to two feet from the extremities. It is the first instance of the kind I have met with. Apples, Pears, Plums, and especially Peaches, succumb to the winters of this latitude (exactly on the fortieth parallel) but my cherries were never before injured by frost. They are upon rather high and dry ground. The lowest temperature which I noticed during the winter was twenty-eight degrees below zero. The thermometer stood at that several mornings, and for six weeks it rarely rose above zero. Several times during my residence here the mercury has sunk to twenty-six or twenty-eight degrees below zero; but it was for only a short time. Was it the long continuance rather than the severity of the cold which killed the trees? Other fruit trees in my orchards suffered much.

Those parts of the branches not killed are full of bloom, and appear to be full of vitality. The trunks are not at all injured; at least, it is not apparent if they are.

The Cherry is the only fruit tree which I can recommend for shade. The tramping of stock injures all others, but it has no effect upon the hardier Cherries. They can also be planted along road-ways and paths where the passing of vehicles and animals would prove injurious to other trees. The orchardist will find this quality of the Cherry quite valuable and important, for he can plant it along the drives between his orchards.

I believe that, as a general thing, Cherries do not receive that attention which they should. They certainly do not receive the care bestowed upon Apples, Peaches, or Plums. Like Topsy, they just grow. Orchardists are very careful in the selection of varieties of Apples, Peaches, etc.; they prune the trees and guard against enemies, and stir and fertilize the ground. Yet very few Cherry trees receive this attention. The selection of varieties is often a matter of chance. Horticultural societies give lists of best varieties of nearly every other fruit quite frequently, but lists of Cherries are remarkable for their scarcity. A Cherry tree is stuck indifferently into the ground, and rarely pruned or manured. Yet no tree is more grateful for attention, or expresses its gratitude in a more substantial way.

The earliest Cherries are the most profitable. The first in the market bring the highest price. The earliest ripened of the early varieties are nearly worth their weight in silver. The man, therefore, that has the first ripe Cherries to sell will get the largest profits. The bloom will open earliest on trees standing on a southern slope. The rays of the sun, falling most directly upon ground sloping toward the south, will warm it earlier in the spring than ground upon which the rays fall obliquely; and the sooner the sun warms the ground the sooner the blossoms will wake to life. And from blossom to mature fruit the successive stages of development will be most rapid on the warmer soil; so that a southern slope will secure the earliest Cherries. But this entails a risk. The blossom-buds may expand too soon. Always in spring, warm and cold weather alternates for a few weeks. This period proves most destructive to the hopes of the fruit grower. The buds will lie secure and unharmed in a casing of ice during midwinter, but in the spring, after a few warm days have made them swell, a slight frost may greatly injure them. If the Cherry grower plants his trees on a southern exposure he may overdo matters and have no early Cherries at all. My plan is to risk some trees on southern slopes, and plant the rest on high, dry ground, sloping to the north.

Cherries, both tree and fruit, have few enemies. In this they clearly have an advantage over other fruits. I would not unnecessarily draw invidious distinctions, but a proper recognition of this fact will add materially to the estimation in which Cherries are held. The only enemy of the fruit that has proved troublesome to me is the red-headed woodpecker.

The Cherry is generally undervalued. Of our commoner orchard fruits it ranks among the highest in hardiness and fruitfulness; requires little care, and less protection from enemies; is really a luscious fruit, beautiful to look upon, and more pleasing to the palate than the eye, and loses none of its good qualities by being stewed, dried, preserved, or canned.

JOHN M. STAHL.

The Flower Garden.

JUNE.

What is so rare as a day in June?
Then, if ever, come perfect days;
Then heaven tries the earth if it be in tune,
And over it softly her warm ear lays;
Whether we look, or whether we listen,
We hear life murmur, or see it glisten;
Every clod feels a stir of might,
An instinct within it that reaches and towers,
And, grasping blindly above it for light,
Climbs to a soul in grass and flowers.
The flush of life may well be seen
Thrilling back over hills and valleys,
The Cowslip startles in meadows green,
The Buttercup catches the sun in its chalice,
And there's never a leaf or a blade too mean
To be some happy creature's palace;

* * * * * * * *

Now is the high-tide of the year,
And whatever of life hath ebbed away
Comes flooding back, with a ripply cheer,
Into every bare inlet and creek and bay;
Now the heart is so full that a drop o'erfills it,
We are happy now because God so wills it,
No matter how barren the past may have been,
'Tis enough for us now that the leaves are green.
We sit in the warm shade and feel right well;
How the sap creeps up and the blossoms swell;
We may shut our eyes, but we cannot help knowing
That skies are clear and grass is growing.

* * * * * * * *

Joy comes, grief goes, we know not how;
Everything is happy now,
Everything is upward striving;
'Tis as easy now for the heart to be true
As for grass to be green or skies to be blue—
'Tis the natural way of living.

—*James Russell Lowell.*

SEASONABLE HINTS.

A common mistake of the amateur gardener is to spend all his energies in the production of early flowers without making provisions for late-blooming plants. Most annuals may still be sown, and will, with a little care, give a pleasing succession; but nothing is so satisfactory in this respect as the different kinds of summer flowering bulbs, most of which should be planted during this month.

The *Tuberose* is probably more disappointing to beginners than any other cultivated bulb, and yet its culture is of the easiest kind, provided its necessary conditions, which may be readily furnished, are supplied. The most essential of these is that the bulb should be first-class in every respect, not necessarily of the largest size, as good, solid, medium-sized bulbs produce generally better flowers than huge, overgrown ones. The soil must be thoroughly drained,—as the Tuberose cannot endure stagnant water about its roots,—deep and friable, warm and rather sandy. In this latitude, the first of June is early enough for planting; nothing is gained by setting them out earlier, while everything may be lost. The bulbs should be planted not less than four inches deep, and the soil pressed firmly around them. They require about a month before they appear above the ground, during which period the soil should be kept loose and free from weeds by lightly passing a rake over the surface once a week. To secure earlier blooms, some bulbs should be started in pots in a warm room, or hot-bed, and afterward planted out.

BEDDING PLANTS FOR GARDEN DECORATION.

June is the most welcome month of all the year to every lover of Nature,—the month of Roses and Strawberries,—and happy are those who can enjoy their beauty and sweetness in their own homes! But it is, also, a hard-working month for the florists, who must rise early every bright morning, and pull up every tiny weed as soon as it appears—so that it shall not feed upon the rich food prepared for the lovely flowers; and must tend their plants with zealous care, and water them patiently every night, if they would reap the full reward of all their labors and make their gardens and lawns "a thing of beauty."

"Paul must plant and Apollos water," if we would avail ourselves of God's gifts of flowers, fruits, and "the green things of the earth," without whose cheering presence the country would become desolated.

But with the wealth of bedding-out plants which the florists raise by hundreds of thousands, and the mail-bags carry to the farthest outposts of the "States," no home should be without brilliant beds of lovely, fragrant flowers; and as they are offered at such low rates, and seeds of beautiful flowers can be purchased so cheaply, not even the poorest laborer can afford to be without a flower garden to adorn his little cottage, while the most beautiful villa will appear bare and unhomelike if unadorned with shrubs and flowering plants and climbing vines and rare Lilies.

Do you ask what bedding plants shall I procure which will be sure to give me a plentiful supply of flowers?

GERANIUMS

will flourish and flower luxuriantly in the sunniest plots of your garden, and the heat will only stimulate them to brighter bloom. Prepare a large oval or circular bed, well enriched, and plant in the center of it the richest scarlet varieties of both double and single flowers, such as *Henry Cannell, J. H. Klippart, Berenice, McLeod, Robert George*, of the first; and *Bamford's Glory, New Life, Mazeppa, Beacon, Galenus* and *Gnome*, for single flowers. Plant a dozen of these in the center and surround them with a row of crimson Geraniums, such as *Asteroid, Depute Voix, Duhamel du Monceau, Lemoiné's Cannell, E. G. Hill, Ernest Lauth, Bataclan*, and *Hazel Kirke*. Plant the next row with bright pale pink varieties, like *Asa Gray, Beatrice, Cheerfulness, Cybele, Gen. A. S. Johnson, Master Christine, Favorite, Mathilda, Newland's Mary*, and *Rose Unique*. Then plant the pure white varieties,—*Alba perfecta, Boule de Neige, Candidissima, Flag of Truce, Mrs. J. A. Garfield, Mad. Quinet, White Perfection, Pauline Lucca, Snowden*, and *White Vesuvius*. Edge this bed with dwarf varieties of gold and silver-edged and tri-colored Geraniums, and you will have a most brilliant decoration for your lawn or garden, which will give you an abundance of flowers until the frosts destroy them.

THE MONTHLY CARNATION

is a fine bedding-out plant, and its flowers are so deliciously fragrant that they are unrivaled for baskets, vases, and bouquets for parlor or table adornment. Every one must grow Carnations! Strong, fresh soil, well enriched with soluble Pacific Guano or superphosphates, or stable manure thoroughly decomposed, is very essential to their luxuriant growth. The Carnation, like the Pansy, is a gross feeder, and its roots require a deep soil, with a little mixture of sand to keep it friable and prevent the plants from becoming diseased. Plant lice will attack Carnations if they are not kept well showered when cultivated in window gardens, but out-of-doors the plants are free from insect pests. The new everblooming Carnations, *Cymbeline, Cordelia, Beatrice, Imogen, Miranda, Rosalind, Juliet, Portia*, and *Viola*, named for Shakespeare's famous heroines, possess such brilliant hues, and are so beautifully striped and flaked, and bloom so continuously, that they cannot be too highly recommended to all lovers of this most beautiful flower. And if planted in a bed and edged with Heliotropes, they will perfume the air with their delicious fragrance for months.

FUCHSIAS

are great favorites of mine, and if they are planted on the north side of the lawn or in a north-eastern locality, they will bloom in beauty all summer. But they require a great deal of moisture to flower well, and the hose must be used upon them daily. A bed of double and single varieties, edged with plants of Rose Geraniums of the plain and cut-leaf varieties, will prove a decided addition to every flower garden. Among the newer varieties are: *Earl of Beaconsfield*, which flowers abundantly for many months. *Gracieux* is also a desirable novelty, and *Jules Monge* and *Jules Ferry* have large and beautiful flowers. *Mastodonte* has a rich violet-hued corolla of great size. *Pascal* is of a shrubby habit, color light red and rosy-purple. *Mrs. Marshall, Mrs. Thomas, Joseph Rosain*, and *Carl Holt* are older varieties, but worthy of the culture of all Fuchsia lovers.

PETUNIAS

are very desirable for bedders, as they require little attention and flower plentifully until severe cold checks their growth, and then they will spring up abundantly the following spring. The choice new double white, pink, purple, and crimson, with the striped single and double varieties, will make a handsome bed of flowers.

SINGLE DAHLIAS

make a fine show, if planted *en masse* or in rows, and are very ornamental as a hedge along the background of a garden.

CHRYSANTHEMUMS

for autumn flowering are indispensable, and they can be planted after the early June and July flowers are passed by, as they will not bloom until September or October. *Madame Marthe* is a pure white flower of great beauty; *Fimbriata* is a fringed variety of rose color, shading to white; *Crimson King* is of the deepest red; *La Petite Marie* has pure white pompon flowers; *Golden Madame Marthe* has golden yellow flowers. These varieties will bloom until the snow blights them, and if well covered with leaves they will survive a cold winter. Give plenty of room to them, so they can grow into well shaped plants; nip off the terminal shoots before the buds begin to form and produce two or three shoots or heads of bloom upon each branch.

DAISY EYEBRIGHT.

THE CLIANTHUS.

This plant, known as the "Glory Pea" of New Holland, though usually considered of somewhat difficult culture, may be easily grown if care is taken not to give too much water when young. The seeds vegetate freely, grow rapidly, then suddenly the young plants wither. If the cause is sought, it will be found that they have rotted, or "damped off," as gardeners say, just at the collar of the plant. If this can be prevented, and there is no real difficulty, the culture is very easy. The plant is a native of dry, sandy plains, and never at any period of its growth requires much surface water. The roots are long and bare, and will strike down and draw the necessary moisture from below.

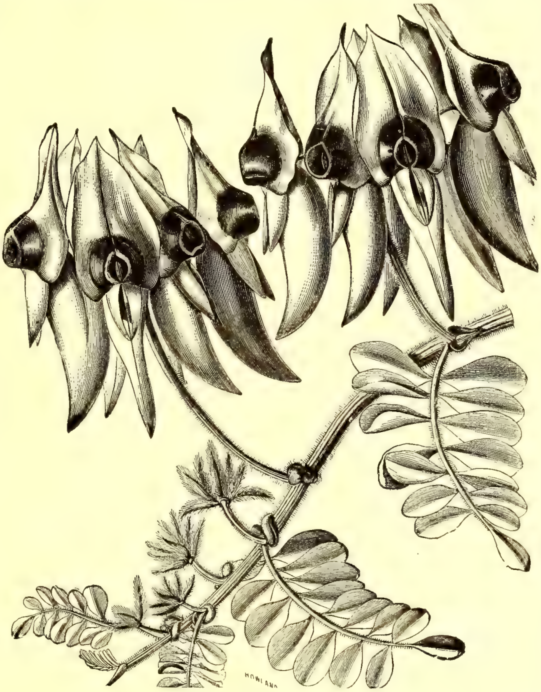
Of the beauty of the plant no description can give an idea, and even the highest colored illustrations cannot exaggerate its brilliancy. The foliage is rather large, compound and vetch-like, well covering the plant, and showy. The flowers are in pendent clusters, each individual being about three inches long; they are pea-shaped, and usually of a rich scarlet color.

The seeds should be sown in rather sandy soil, in pots, or in a frame, in April. If in the latter, however, it must be where the plants are to bloom, as they cannot be transplanted successfully; or they may be sown in the open border, after the ground has become warm, about the last of May. In border-culture, the essential point to be observed is that, while the plants require an abundance of water during the growing season, the utmost care is necessary to keep the neck of the stem entirely dry. When the seedlings are very small, pot each separately, or, better still, plant but one seed in each pot, and as the plants grow shift into larger pots. Never water over-head, or wet the foliage, and if the surface is watered put a little sand round the collar of the plant. We have been most successful by not giving any surface water; but, instead, setting the pots in a pan of water, and thus supplying moisture to the root. As soon as the stem of the plant becomes woody, which it quickly does, no further care is needed.

If one can get Clianthus safely through the first few weeks of their growth, they are as easily grown as any plant. Set the plants out in a dry, warm, sunny spot in the garden, about the first of June. They will make bushes two to three feet in height, and be covered with the splendid flowers until killed by the frost. In the greenhouse they do not thrive, as they are more subject to the attacks of red spiders than any plant, and do not like the syringing necessary to destroy that pest.

The oldest species is *C. puniceus*, which is a very showy plant; but the newer, *C. Dampieri*, far surpasses it, having larger flowers of a richer scarlet, which have a large, shining, intense black mark at the base of the petals. Of this latter species there is a variety with white flowers, somewhat varied with pink, and with the same black marking, which is very pretty, although less showy.

Let no one be deterred from planting Clianthus because it is "hard to grow." The only care is to avoid over-watering in the early stages of growth; otherwise the plant is of as easy culture as any other of the Bean family. R. S. E.



CLIANTHUS DAMPIERI.

PHLOX DRUMMONDII.

We have no more desirable annual, so far as brilliance of color, constancy of blooming, and ease of cultivation is concerned, than Phlox Drummondii. It does not do as well in a very rich soil as it does in a moderately rich one. At least, such has been my experience. If given a very rich soil, it is inclined to grow very luxuriantly, and produces more foliage and branches than flowers. It likes a light soil, and any ordinary garden soil is improved for Phlox-growing by adding sand. It can be sowed in the beds early in the season, as it is not easily injured by frost. I often find plants in last year's beds, the seeds having stood the winter bravely.

In six weeks from the time of sowing the plants will begin to bloom, and from that time until severe frosts in fall, the crop of flowers will be steady and increasing, as the plant increases in size, if care is taken to keep the faded flowers cut off, thus preventing the formation of seed. No plant should be expected to produce many flowers while perfecting seed.

The more you cut the Phlox the more branches you will get, and as the new growth always bears flowers you get an increase in bloom in proportion to the increase of growth in the plant. Keep down weeds until the plant has grown large enough to cover the ground, and then it will generally keep down the weeds itself.

A bed of mixed colors is very pretty, but I prefer to keep the colors separate. A favorite way of arranging Phlox is to sow it in circular beds, in rings of white and rose varieties. I prefer these colors to any other, but the others are very fine.

E. E. Rexford.

WINTERING TEA-ROSES OUTDOORS.

My Tea-Roses, left out-of-doors all winter and cut back this spring, are sprouting finely. The only exceptions are some Perle des Jardins, which were planted last year, from two-inch pots, in rather poor soil, and did not make strong enough wood to stand the winter's wet. It is the wet, by-the-by, not the frost, that kills Teas. My garden is well sheltered by a high board fence, and I bent the plants down, first cutting them back slightly, secured them with stakes, and gave a covering of leaves—nothing more. Out of fifty treated that way, I lost nine — the weak Perles. *Per contra*, out of fifty more left to perish miserably, three would not die, and there they are, with long sprouts, from a sound six inches or so of stalk saved. My florist friends told me I couldn't keep Tea-Roses out-of-doors in this latitude. When I told them I intended to keep a Lemon-Verbena also in that way, they laughed. There they are, however, to-day, sprouting finely, to the confusion of all doubting Thomases. Fuchsias, and many other, so called, tender shrubs and woody plants, if large specimens, may be kept in the same way, by cutting back and loosely covering; but the game is not worth the candle. T. D. E.

TRANSPLANTING FROM POTS.

To transplant bedding-out plants from the pots, turn them bottom side upward on your left hand, and rap sharply with the rim of the pot against a table or box, and the ball of earth will fall out. Loosen the roots with a gentle touch, and shake them out slightly. Let the hole be ready prepared with water at the bottom of it, before the plant is taken from the pot, and set it into the soil a little deeper than it was in the pot. If the roots have formed a net-work inside the pot, pull off a little of it, and if the ball is hard, crush so as to partially loosen it. Press the earth very firmly with your hands and the trowel around the stem of the plant. Transplant on a cloudy day, and you will not lose a plant.

Lawn and Landscape.

RHODODENDRONS.

A talk about Rhododendrons should always express at the very outset a prompt testimonial to the unrivaled charms of the delicate, richly, and subtly colored, and marvelously fashioned flowers, and noble shining evergreen leaves of this king of hardy shrubs.

But our little burst of admiration over, it behooves us, if we propose to plant the Rhododendron and properly enjoy its charms, to consider whether this noble shrub is actually hardy in our Northern States, and if so, how we are to grow it successfully.

We once heard that a celebrated English horticulturist said, during a brief sojourn in this country, that even in America the Rhododendron was as hardy as a White Oak; and in this expression may be found the key to much of the difficulty that is really found in growing Rhododendrons in America. Instead of enduring the treatment of a White Oak, the Rhododendron cannot be called, in the strictest terms, really hardy in this climate, and is therefore, by prudent lawn planters, protected with evergreen boughs during at least the first winter after transplanting. Now the reasoning of the Englishman doubtless was, that the Rhododendron thrived in England in a marvelous manner, and therefore must thrive in a similar latitude in the United States. Unfortunately, this mistaken view impels Englishmen, like the one just mentioned, to send out, for planting on American lawns, varieties of Rhododendrons entirely too tender for the purpose. Several strains or species of Rhododendrons do well in England notably the Ponticum, the Catawbiense, and Catawbiense hybridized with many kinds, including some of East Indian origin, and sundry dwarf species from different parts of the world. Of these, most of the Catawbiense and Ponticum Hybrids are injured in bud or leaf during many American winters. Catawbiense and a few of its hybrids, like Everestianum and candidissimum are alone, in a measurably satisfactory degree, suited to this climate. Only one or two firms have succeeded in propagating Rhododendrons in this country, in quantities, as a regular article of trade. It should be noted, however, that such plants, being born and bred in this country, have an advantage from the start over foreign-grown Rhododendrons. Having selected hardy varieties, they can be easily transplanted, for the Rhododendron has abundant fibrous roots; but the selection and preparation of a suitable home for our plants is another thing, and should be undertaken with considerable care and judgment. A sheltered valley, ravine or bank is the true spot for Rhododendrons; but wherever they are planted, they should be set in the full sunlight and in rich mellow loam. Don't plant Rhododendrons in deep shade; but plant them at a little distance off on the south or east side of a building, or a group of large trees; and if possible, let them be evergreen trees.

In England, the peat system of making beds for Rhododendrons succeeds well, I believe; in this country, however, much peat is bad for them. Its excessive employment, except where the soil is very clayey, unfits the plant for enduring the droughts and burning heat peculiar to our American climate.

In arranging the members of a group of Rhododendrons, I would suggest that each plant be set in the turf in a hole specially prepared for the purpose. The effect of green grass round about individual Rhododendrons is much better than that of bare earth, and there is no real difficulty in carrying this system into practice. In pursuance of the same idea, the plants should be set four, six, and seven feet a part so that their individual beauty may be fully developed and displayed. On the same principle the arrangement of the group should be entirely natural, just in the fashion of a wild wood group, a larger plant here and there after no set form and the whole wandering carelessly, as it were, down the hillside or over the lawn.

One word in conclusion, concerning what to avoid in protecting Rhododendrons from the cold and changes of winter and spring. Don't barrel them up in barrels without heads or strangle them more surely with bands of straws. Let loosely set evergreen boughs simply shelter them from the wind, thus you may help your plants and certainly will not injure them.

SAM. PARSONS, JR.

NATIVE SPIRÆAS.

Few genera of plants offer so many species for general cultivation as the Spiræas, and of the fifty or sixty species, all of which are found in the temperate or sub-arctic region, the majority are desirable, and possess that inestimable quality, hardiness, so eagerly sought in plant or shrub.

In the eastern section of this country are found three showy species, which readily bear transplanting, and are much improved by cultivation. Of these the foremost and handsomest is the *S. opulifolia*, a tall shrub found growing from Canada to Georgia, and attaining a height of from five to seven feet, with somewhat heart-shaped leaves, rounded at the end and divided into two larger lobes below the center. The common name is Nine-Bark, probably taking its origin from the habit of the bark separating into numerous thin layers, which easily scale off. The white or rose-tinted flowers appearing in June are produced in great profusion, in hemispherical heads; each blossom is suspended from a slender downy thread, and the anthers surmounting the long stamens are purple, producing a very pretty and effective combination of color. The shrub grows readily in either wet or dry soil, and is so tenacious of life that twigs carelessly thrust in the ground will readily take root.

S. salicifolia, or Queen of the Meadow, is more common than the preceding, and grows in damp, low ground. The leaves are lance or wedge-shaped, and closely set up on the highly polished copper colored stem, which ends above in a roundish head of white flowers. *S. tomentosa*, known in New England as Hardhack and also Steeple bush, produces its deep rose color flowers in tapering spires, which bloom from above downward. The leaves are closely set as in the former, and the stems are covered with a thick, rusty colored wool or down, which gives the plant a peculiar appearance. It blooms from July to September, like the preceding species, which it resembles in habit of growth.

In choosing the shrubs, during their inflorescence, select only young plants of symmetrical growth; cut out the dead wood and rank growing stems. Work the soil lightly about the roots to encourage a strong fibrous growth, and when the leaves have fallen, the bushes will be ready to transplant. They are extremely hardy, and with proper care will flourish wonderfully.

IKE IVY.

PALMS FOR ORNAMENTAL PLANTING.

Few gardeners are aware of the value of some species of Palms for ornamental grouping on the lawn during summer. Some who are acquainted with their habits and really admire them, have been deterred from using the whole family on account of the high price which they formerly commanded. The wholesale trade have of late years grown such large quantities of the common species that good plants can now frequently be purchased for little more than the sum asked for strong Roses.

Palms, as a general rule, prefer a partially shaded aspect, and many of them insist upon having the rays of the sun entirely kept away, but there are a chosen few which will endure rougher treatment; as, for instance, the *Seaforthia elegans* and our own native Palms from the South. I have seen strong plants of Seaforthia planted in groups in the full summer sun, which were remarkably thrifty and deep green in color. It is needless to add that their graceful, drooping fronds were the perfection of sub-tropical vegetation. The finest effect that can be produced by the use of this class of plants is by massing them around a rockery where Ferns and trailing vines are luxuriating in complete abandon. There seems to be a remarkable appropriateness in the grouping of such ornamental vegetation not to be surpassed by the most gorgeous flowers in our gardens.

Many Palms do not need a strong heat during winter; indeed, they are better without it, and as they attain a large size and become unmanageable, smaller plants may be substituted for them. I have seen the *Alsophila Australis*, a Tree-fern, also doing well in the open air, making a fine contrast with the surrounding Palms.—*Josiah Hoopes, in N. Y. Tribune.*

MOWING NEW LAWNS.

The success of a new lawn depends as much upon the care it receives during its first year as upon the preparation of the soil. The best and most permanent lawns—though produced by seeding, and not by sodding—are often ruined by the early treatment they receive.

In new lawns the grass should be allowed to reach a height of three or four inches before it is mown, and then it should only be cut with a sharp scythe, using it throughout the spring. No greater injury can be done the young grass, and none more seriously destructive to its succeeding growth, than too close cutting at the outset.

During the summer the lawn-mower may be used every ten days or two weeks, dispensing with it altogether during very dry or hot weather. Frequent rollings with a heavy roller will be found extremely beneficial to the young sward, and help keep the surface smooth and even.

The Window Garden
AND GREENHOUSE.

SCREENS FOR FIRE-PLACES.

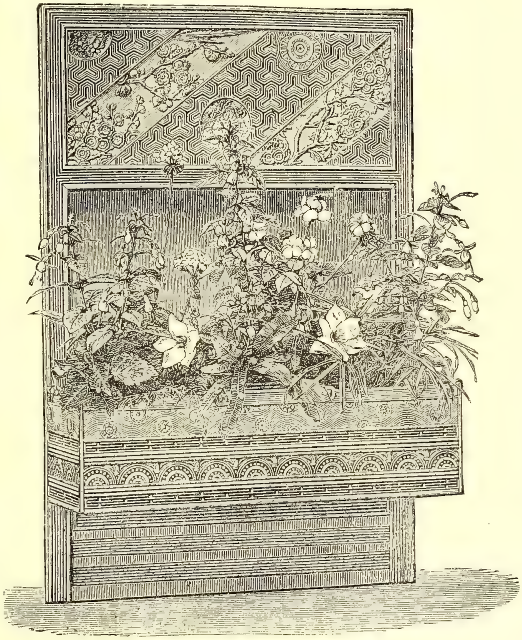
Our illustration represents a fire-place jardinière, consisting of an ornamental cast-iron box, provided with hooks suitable for attaching it to slow combustion stoves. As, however, few of our readers probably possess such stoves, we mention an excellent method of forming a screen for any ordinary fire-place in summer, as described in *Gardening Illustrated.*

Procure a stout box the length of the fire-place, twelve to fifteen inches wide, or more if desirable, and eight or nine inches deep. The front and ends may be painted or varnished, according to taste. Perforate the bottom by means of an auger to afford drainage. Then procure sufficient turfy loam to fill the box, and mix with it a liberal quantity of well decomposed manure and some road sand. After draining the box by placing a large crock over each hole, and putting on these crocks one fourth inch or so of clean gravel, put some of the rough pieces of soil in, then procure two or three good plants of the English or other kind of Ivy in pots, water them well, and when they have drained a little, turn them out and plant them in the box close to the back. In front and round the ends plant a row of young plants of Creeping Jennys, and fill the middle up with hardy Ferns, those in pots will be best. A few pieces of stone may be placed between the Ferns, if desired, to give it a less formal appearance. In each corner at the back of the box must be fastened a stout lath of the height of the fire-place, and to these should be fastened a piece of wire netting to which to train the Ivy, or a wooden lattice would answer as well.

In autumn place the box in a partly shaded position out of doors. Keep the shoots of the Ivy tied in as they grow, and stop them when they reach the top. Give plenty of water, and in winter the box would be better surrounded with ashes or sand to keep the frost from the roots.

In spring cut the Creeping Jenny down close to the soil, and by June a beautiful screen will be formed. A few cut flowers placed in among the Ferns will give a good effect. We must add that the box would be better if provided with a handle at each end, in order that it may be taken out of the room once a week, and the leaves of the Ivy and Ferns receive a thorough washing with the syringe, and the soil receive a good soaking with water.

If the plants are not to be wintered in the box, it may be used for Dutch Bulbs during winter, planting and keeping it outdoors during autumn, and, when cold weather sets in, removing it to the house before a sunny window.



SCREEN FOR A FIRE-PLACE

WATERING HOUSE PLANTS.

Nine-tenths of the failures in window gardening can be attributed to improper watering, either too much or too little—in most cases, too much. You cannot water a plant by rule of thumb. We frequently hear, "I cannot understand how it is that my window plants do not grow better, for I water them every day." This is probably the very cause of their not doing well.

Whenever you water a plant, always give sufficient to soak the whole mass of soil thoroughly; then do not water again before it shows signs of dryness on the surface. It may not be for two or three days, or even longer; but no matter, do not give water until you are sure of its being in a *slightly dry* condition. On the other hand, some plants require water twice a day, especially when the pots are full of roots and the plants are growing vigorously and flowering profusely. The leaves of plants must be kept clean and free from dust; those with bright, shining surface and of good size may be wiped clean with a sponge or soft cloth. Varieties with smaller leaves can only be cleaned by being showered overhead either with a sprinkler or syringe, and this should be done once or twice a week.

Do not allow plants to stand in water except such as are aquatics. If the water touches the bottom of the pots, a good plan is to have a smaller saucer, turned upside down for the plant to stand on, within the larger one; or small blocks of hard wood, or any material that will hold the bottom of the pot above the water-line; otherwise, remember to always empty the water that drains into the saucers.

Plants delight in good living, and when the pots become crowded with roots they should be stimulated; but not until then, unless the plant has been a long time in the same pot, and it is not practicable to renew the soil or give a larger pot. Particular attention is called to this matter of stimulating window plants, from the fact that a theory is just now being extensively circulated, to the effect that plants grown in pots do not require any stimulants, or at most very little. Our experience is that you can no more grow a plant successfully in a pot, in poor, worn-out soil, than you can take a crop of Corn or any other crop from the same soil ten years in succession without applying fertilizers.—*John Thorpe, before the N. Y. Horticultural Society.*

PROPAGATING GLOXINIAS.

To grow Gloxinias from leaves, take any shallow refuse pan, puncture for drainage, and fill with sandy soil; let it settle well, and insert the leaf stems full length around the edges of the pan. Place it in a warm but shaded situation, and keep moderately moist. By the time the leaf has dried up many young tubers will have formed. At the approach of cold weather this pan should be set away in a warm place undisturbed, giving occasionally a little water to prevent the ground from becoming too hard and dry. In early spring they have to be brought into the light, watered more frequently, and potted off as they appear. If vigorously grown, the plants will bloom the same season.

AMATEUR.

MORE MIGNONETTE.

I take from the garden in the fall, says *M. A. G.* of Vermont, the young plants which have grown from the fallen seeds of the earlier blossoms, when about an inch or two high, plant them in pots of rich garden soil, and treat them like other window plants. I never fail of having their fragrant flowers by the middle of December. Candytuft and China Pinks I treat in the same way; and by taking up young plants of Verbena in the fall they will thrive splendidly in the window.

A large share of my success with these plants is no doubt due to the even, low temperature at which I keep my parlor, which faces the south, and serves me as a conservatory, and is heated by a stove in the sitting-room adjoining.

WINDOW BOXES.

Plant-boxes outside of windows are coming into more frequent use in our cities, and help much to give a cheerful appearance to houses and streets; but even in country, and especially suburban houses, they may be used to advantage. Most plants thrive better in properly arranged boxes than in pots, and when strong growing and free blooming plants are employed a bright and pleasing effect will be produced all summer.

Foreign Gardening.

TROPICAL FRUITS.

THE CAJU.

One of the most refreshing fruits of Brazil is the "Caju,"—botanically, *Anacardium occidentale,*—sometimes spelled Cashew. It is produced by a small tree, with irregular, spreading branches and large, shining oval leaves. The flowers are very small, yellowish-white or rosy, in small panicles on the ends of the branches. The fruit is fleshy, pear-shaped, and full of a cool, fragrant, slightly astringent juice. It is bright yellow, often with a red cheek, or bright red, according to the variety.

The singular feature is the seed, which resembles a very large Kidney-bean, and which is attached to the end of the fruit, which hangs from the ends of the small branches, giving the tree a very peculiar appearance when in fruit, which, here in Para, is every month in the year. The best time to eat or to suck Cajus—for the pulp is never eaten—is before breakfast, but they are grateful at any time of the day and allay thirst far better than water. The seed contains a large quantity of acrid juice in the layer surrounding the kernel, which, touching the skin, produces painful blisters; but this is expelled by heat; and the kernels roasted are very nice, and taste something like Pea-nuts. In roasting the seeds, if the smoke blows upon the face it causes a severe inflammation, and even blindness. A wine about as good as currant-wine is made from the fruit of the Wild Caju, which is smaller and more acrid than the garden varieties. This fruit varies much in quality and size,—that of some trees being small, of others very acrid, while in the best varieties it is as large as a Bartlett Pear and very sweet and delicious.

BREAD-FRUIT.

The Bread-fruit may be dismissed with a slight mention, as, in spite of its name, it bears about the same relation to a fruit that a Squash does to a Peach. The tree *(Artocarpus incisa)* is very beautiful and always attracts attention from its large, deep cut, dark green foliage; but the fruit, which is green and about the size of a small round Melon, and rough or smooth on the outside, according to the variety, has no flavor and is thoroughly insipid. If, as travelers state, the South Sea Islanders live upon Bread-fruit, they must have a hard time of it. There are two varieties—one seedless, the other full of large seeds, which are eaten boiled and resemble Chestnuts, but without their sweetness.

Another species of this family *(A. integrifolia)*, the Jack or "Jaca," has large entire foliage and a somewhat similar fruit with large seeds. Although the natives eat it, the rank smell is sufficient to take away the appetite of the stranger.

PERSIMMONS.

A small tree of the Persimmon family *(Diospyros Savate)*, called here *"Saputi Preto,"* is occasionally seen. It is without astringency, with black, sweet flesh, and the size of a large Plum, but has no special flavor to recommend it.

E. S. RAND, JR.

LAND CULTURE IN JAPAN.

Mr. Shosuke Sato, assistant superintendent of the Imperial Agricultural Experiment Station of Japan, who is now in this country to study our agricultural system, contributes an interesting and valuable article to the *Agricultural Review*, from which we condense the following:

Japanese farming may aptly be called gardening rather than farming, for every farm, every field looks like a garden. In general the climate of Japan is very mild and equable; the sudden and abrupt changes of temperature so common in most of the New England States are unknown there.

In the south, vegetation grows most luxuriantly; and although the north of Japan has a more severe climate, it is admirably suited to agriculture. Many valleys, hills, and mountains are still covered with primeval forests, and the virgin soil is exceedingly rich.

The northern provinces are well adapted to grazing as well as to ordinary farming. Here almost every kind of grain, vegetables, and fruits can be raised, and many improved varieties have already been imported from America. Thoroughbred cattle have also been introduced, and thrive in an excellent degree.

The island of Niphon, which occupies the central portion of the Japanese group, and is the largest of all, has the finest and most delightful climate and most abundant resources. Tea, silk, cotton, tobacco, and sugar are largely produced; rice, wheat, barley, and other cereals also constitute important products. Irrigation and drainage are practiced with great advantage. There is hardly a plot of land which does not receive the plow of the husbandman, and valleys and hills are green throughout the entire season.

Japan has such prime advantages in climate and soil that it may be considered as one of the best agricultural countries. It is perfectly astonishing how the fertility of the soil has been maintained for so many centuries, under successive croppings year after year; especially when it is considered that the Japanese farmers always raise Rice on the same plot of land, and that they seldom practice rotation of crops. Still, they not only maintain the fertility of the soil, but make their lands more fertile. The secret of which is they return to the soil what is taken away, both in quantity and quality. Those who exhaust their lands are a shame to the community in which they live. [If this injunction were applied to some of our own communities, there would be more shame evolved in many of them than the country could hold.—ED.]

Labor in Japan is exceedingly cheap; the ordinary farm hand averages from $40 to $50 per year, without board and lodging; and as the land is in general very minutely divided, most farmers cultivate their own lands with their own hands. Manure is carefully economized by the Japanese farmer; he never wastes what will contribute to the fertility of the soil. Fish, guano, lime, barn-yard manure, and night soil more than anything else are used.

The soil is finely pulverized, and the weeds are carefully pulled out or plowed under; weeds are never allowed to grow and draw fertility from the soil. It is a joyous time for farmers when the weeding of the Rice fields begins. Men, women, children, all go out into the field, and pull up every weed they can find, and leave the field in the nicest possible condition, singing merrily as their work proceeds, and when their labor is over they have a big feast in the family circle. Rice may be understood as the staple crop, and the Japanese farmer depends entirely upon it; but the time will soon come when Japan will not depend entirely upon this one crop alone, but upon various agricultural products.

AN IMPOSING AVENUE.

The entrance to the botanic garden of Ceylon—says *Prof. E. Haeckel* in his "India and Ceylon"—is through an avenue of noble India-rubber trees, *Ficus elastica.* This is the tree whose inspissated milk-sap forms the caoutchouc of commerce, and whose young plants are frequently seen in the greenhouses of our rugged North. While these India-rubber plants with us are objects of admiration when their slender stems grow to the height of the ceiling, and their few branches bear from fifty to one hundred leathery leaves, here in their hot mother-country they develop into gigantic trees of the highest rank, and rival our proudest Oaks. The immense crown of many thousands of leaves covers with its mighty branches, of forty to fifty feet in length, the superficial surface of a stately palace, while from the base of the thick trunk extends a net-work of roots that frequently measures from one hundred to two hundred feet in diameter—far more than the height of the tree itself.

This astounding root-crown consists mostly of twenty to thirty main roots, from each of which branch as many more—all of them curving and twisting over the ground like so many gigantic serpents, for which reason the Singhalese call it the "Snake-tree," and poets at various times have likened it to the snake-entwined Laocoön. The spaces between the roots form veritable closets or sentry-boxes, in some of which a man standing upright may effectually conceal himself.

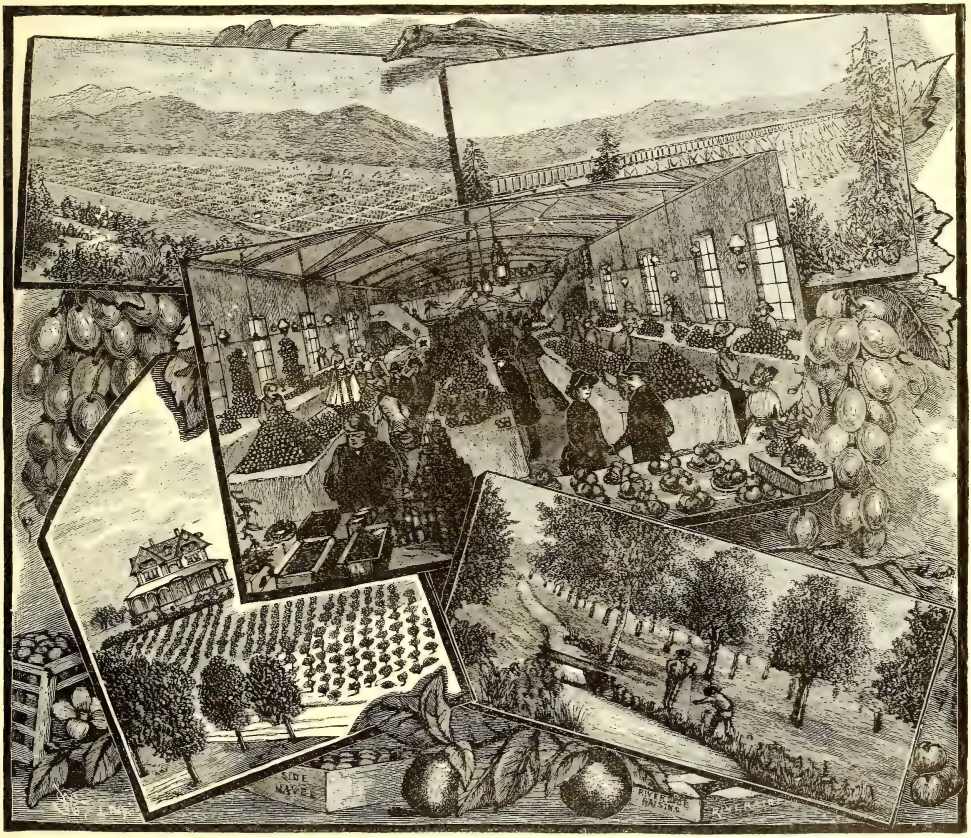
Scarcely had I expressed my admiration for this avenue of Snake-trees, when my eyes were enchained by another wonderful sight near the garden gate. There, as if to greet the new-comer, stood a huge bouquet of Palms, composed of those species indigenous to the island, and a number of foreign representatives of this noblest of tropical families; garlands of lovely creepers festooned their crowns, while their stems were ornamented with the most exquisite parasitic Ferns. A similar but handsomer and more extensive group stands near the end of the main alley, which here branched, the path on the left leading to a slight eminence on which stands the "bungalow" of the director.

This enviable home is, like most Ceylonese villas, a low one-storied structure, encircled by an airy veranda whose wide, projecting roof is supported by a row of white pillars. Roof and pillars are adorned with luxurious vines, large-flowered Orchids, odorous Vanilla, showy Fuchsias, and other bright flowers; choice collections of flowering plants and Ferns embellish the garden beds which surround the house, and above them rise the shade-dispensing crowns of India's noblest trees. Numerous gorgeous butterflies and beetles, lizards and birds animate this charming picture.

Horticultural Societies.

NEW-YORK HORTICULTURAL SOCIETY.

The May exhibition held on the first of the month, although hardly inferior in the variety and excellence of its exhibits, was, in regard to attendance, a decided contrast with that of the previous month. At no time during the afternoon was the hall more than half filled, and no one had any difficulty in getting near enough to the tables for close examination of the exhibits, while at the April meeting the hall was crowded with intelligent and appreciative people, from the moment the doors were opened till closed again.



GLIMPSES OF RIVERSIDE, CAL., AND ITS CITRUS FAIR OF 1883.

In our last issue, we suggested that the exhibitions be held oftener, but instead of this some one ordered that the admission price be doubled, and in consequence many persons who did not know of the change until they came to the doors, and who willingly would have paid the former charge of twenty-five cents, turned back in disgust. This is very much to be regretted, as one of the principal objects of a horticultural society should be to popularize horticulture, and to foster an interest and love for plants and flowers among the masses, instead of placing an exorbitant money barrier between them and Flora's Hall.

A measure of such vital importance to the success of a society should never be left to the option of any officer, and if this had been submitted to a vote of the society, the good judgment of its active members would certainly have decided differently. But the fact is, the so-called meetings of the New-York Horticultural Society are a mere farce; there are no discussions of any kind, and its members have about as much voice in its management as the passengers of a railroad train have in the affairs of the railroad company. The injury done to the interests of the society by such a short-sighted policy is incalculable, and most strenuous efforts will be required to regain the support and good will of the people thus driven from its doors.

These exhibitions, if made accessible to the people, exert a beneficial and far-reaching influence, and it is earnestly to be hoped that the next exhibition, on June 19th and 20th, which will be especially devoted to Strawberries and Roses, will revive the flagging interest of the flower-loving inhabitants of New-York.

Intending exhibitors may obtain premium lists and entry blanks by addressing the secretary, Mr. J. Y. Murkland, 18 Courtlandt street, New York.

THE RIVERSIDE CITRUS FAIR.

As an exponent of the rapid and wonderful progress which southern California has made during the past few years, and which already, as if by magic, has been transformed from a desolate barren into one of the most delightful and enticing regions on this continent, Riverside stands in the front rank. Here a variety of unusually favorable circumstances seem to have combined in the formation and development of a settlement which offers rare inducements to the fruit grower as well as to the seeker of a home under the skies of the sub-tropical region.

Orange and Grape culture constitute the principal industries of the country, and the annual Citrus Fair is naturally considered the great gala day of the year. The recent fair was pronounced the most successful of any ever held, and the short sketch of the same, with illustrations, which appeared originally in the *Pacific Rural Press*, may interest many of our readers:

"The artist has aimed to present a few scenes of the thriving colony of Riverside, San Bernardino Co. There is a general view of the situation of the town, its beautiful slope, edged by picturesque hills and marked out by tree-set avenues into small farms, which are now, for the most part, covered with trees and vines, and dotted with neat cot tages, and, in some cases, stately residences. The picture shows the place rather less built up and grown over than it now is, but the idea conveyed of the site and surroundings is a true one. Another scene gives the graceful tressel over which the irrigation water is carried across a deep depression in the surface and poured out upon fertile lands beyond. At one of the lower corners of the engraving is a glimpse of a bearing Orange orchard. It lacks, of course, the glorious coloring of nature, the green and the gold contrasting. There is seen, also, the flowing water in the irrigation ditch, and the irrigators at work turning the flow so as to bring the welcome nourishment to the waiting trees. Another corner scene shows the sisterhood of tree and vine, as it is found on many Riverside farms, the contrast of high and low growth being a noticeable feature of the scene. In the background appears one of the finest residences of the settlement — that of Mr. J. H. Benedict, in Arlington, which is a continuation of the original Riverside, and contains some of the most delightful places in the colony.

"The central scene affords a glimpse of the interior of the Riverside pavilion during the holding of the recent Citrus Fair, the picture being drawn from a photograph by Turner. The view is taken from the stage, and the beholder looks therefrom down the aisles between the long exhibition tables, laden with golden fruit arranged in many shapes, until the eye alights upon the background, which shows the main entrance to the hall, the stair-ways leading to the gallery, which is also filled with beautiful fruit exhibits and other products. The Citrus Fair is one of the gala occasions of the year in Riverside, and during the afternoon and evening hours the available space between and around the tables is filled with a throng of people, dividing the time between admiration of the exhibits and friendly greetings of each other."

Miscellaneous.

EXTREME SEASONS.

The commonly expressed opinion that the drouth of last year was unprecedented in severity is not correct, nor could it be attributed to especial cause. *Secretary John E. Russell*, in his report to the Massachusetts Board of Agriculture, says in this regard:

The earliest settlers found a climate very different from that where they had acquired their agricultural experience and precepts; irregular and fitful rainfall was found to be a characteristic of this climate. The thermometer, a simple and necessary instrument of the present day, was not made practicable until the beginning of the eighteenth century, so that we have no record of the heat experienced in the summers of the first century of settlements upon this coast, but it is recorded that drouth was an ever-present menace to the struggling colonists, who were dependent upon the agriculture of a narrow area for their entire subsistence. In time of failure of crops, their only hope was in rescue from beyond seas.

A partial drouth in 1623 — no rain falling from the latter part of May until the middle of July — threatened the existence of the Plymouth Colony. In 1639, an early drouth threw the Colony into great alarm, and there was a resort to fasting and prayer. The years of 1644, 1647, and 1648 were years of drouth, and the records of the colony for a century succeeding show a continual recurrence at irregular intervals of seasons like the last summer.

There were also seasons of extreme wet and cold, like that of 1632, causing "great store of mosquitoes and rattlesnakes," grasshoppers and canker-worm plagues, and "millions of devouring worms in armies." Great variations were noticed in the winters, and it is probable that our climate is no worse than our fathers found it in their early experiences.

THE OLDEST TREE IN THE WORLD.

The oldest tree in the world, so far as any one knows, is, says *Knowledge*, the Bo tree of the sacred city of Amarapoora, in Burmah. It was planted 288 B. C., and is therefore now 2170 years old. Sir James Emerson Tennent gives reasons for believing that the tree is really of this wonderful age, and refers to historic documents in which it is mentioned at different dates as 182 A. D., 233 A. D., and so on to the present day. "To it," says Sir James, "kings have even dedicated their dominions, in testimony of a belief that it is a branch of the identical Fig tree under which Buddha reclined at Urumelaya when he underwent his apotheosis." Its leaves are carried away as streamers by pilgrims, but it is too sacred to touch with a knife, and therefore they are only gathered when they fall. The King Oak in Windsor Forest, England, is only 1000 years old.

THE SOUTHERN "'GATOR."

Six thousand baby alligators are sold in Florida every year, and the amount of ivory, number of skins, and quantity of oil obtained from the older members of the Saurian family are sufficient to entitle them to a high place among the products of the State.

The hunters sell young "'gators" at twenty-five dollars per hundred, and the dealer from seventy-five cents to one dollar each. Live alligators, two years old, represent to the captor fifty cents each, and to the dealer from two to five dollars, as the season of travel is at its height or far advanced. A ten-foot alligator is worth ten dollars, and one fourteen feet long twenty-five dollars to the hunter, while the dealer charges twice or three times that price. The eggs are worth to the hunter fifty cents per dozen, and to the dealer twenty-five cents each.

The dead alligator is quite as valuable as the live one, for a specimen nine feet long and reasonably fat will net both branches of the trade as follows:

THE HUNTER.		THE DEALER.	
Oil	$5.50	Oil	$7.50
Skin	1.00	Skin	4.00
Head	10.00	Head	25.00
	$16.50		$36.50

The value of the head is ascertained by the number and size of the teeth. Dealers mount especially fine specimens of the skull, but the greater number have no other value than that of the ivory they contain.—*James Otis, in The Continent.*

BOOKS AND PAMPHLETS RECEIVED.

Moorestown, N. J., Agricultural and Industrial Society.—Premium List of the Fourth Annual Spring Exhibition, to be held June 8th and 9th.

New Music.—*Messrs. Ditson & Co., Boston,* have sent us a good-sized roll of music as a specimen of their work. The sheets are large, clearly printed in first-class style, and the collection comprises a great variety of music.

Agricultural Review, *New-York.*—The April number before us contains some articles of unusual interest, especially so that of Mr. Shasuke Sato, on Japanese Agriculture, from which we give some extracts on another page; Farmers' Gardens, by F. K. Moreland; Animal Nutrition, by Dr. J. H. Gilbert; Superphosphates, by Prof. Penhallow.

Kansas State Board of Agriculture.—Monthly Report for the month ending April 30, 1883; containing reports by counties as to the condition of Wheat, Rye, Oats, Corn, and Potatoes; the condition of fruit and live stock, and the Meteorological Record for the month; William Sims, Secretary. This interesting report is the first one of the series. which is now, according to an act of the Legislature, issued monthly, to take the place of the second and third quarterlies that heretofore covered this period.

India and Ceylon, by *Prof. Ernest Haeckel;* translated by Mrs. S. E. Boggs.—This work is justly considered one of the most interesting and valuable narratives of travel published in many years. Although written by one of the most profound scientists of the age, its entire tone is of a pleasing popular style, and its perusal as fascinating as a good novel. The reproduction of works of this class in a cheap and yet neat and convenient book form is to be highly commended. Price, twenty cents. *John W. Lovell & Co.*, New-York, Publishers.

New Jersey State Board of Agriculture.—Tenth Annual Report. *Mr. P. T. Quinn, Secretary.*—This volume, like all its predecessors, presents a large amount of valuable matter, of interest not only to the farmers of the State, but to every one engaged in agricultural pursuits. It contains, in addition to the elaborate address of Pres. Thos. H. Dudley and several highly interesting papers by various authors, Prof. Cook's report of the State Agricultural College, the report of the American Cranberry Growers' Association, and condensed reports of every local agricultural and horticultural society in the State.

Outing, *an Illustrated Magazine of Recreation, Albany, N. Y.*—With its May number this excellent monthly appears in an entirely new and elegant dress, and considerably enlarged and improved. It is with real pleasure that we perceive this evident indication of deserved success and prosperity, as well as the means for still greater usefulness afforded thereby. Systematic and beneficial recreation and relaxation are among the most important questions of the day, and a journal which devotes itself to their solution should be welcomed by every one who has the best interests of his family at heart. Any one who cannot find in its pages suggestions for some kind of recreation suited to his tastes must surely be deficient in the appreciation of a higher life than that of the mollusk.

Agriculture of Massachusetts.—*Annual Report of the State Board of Agriculture for the Year* 1882.—An elegant volume of one hundred and fifty-nine pages. Mr. John E. Russell, the secretary, reviews the agricultural situation and conditions of the year, and condenses in his report about as much common sense and sound agricultural advice as can well be squeezed into an equal space. Of the large number of valuable papers and essays contained in the volume, we have room only to mention a few of the most prominent: The Masschusetts Agricultural College, by the late president, Paul A. Chadbourne; The Milk Question, by Major H. E. Alford; From Grain to Ear, by Dr. B. D. Halsted; Influence of Chemistry on the Development of a Rational System of Stock Feeding, by Prof. Goessmann; Tobacco and its Culture, by J. M. Smith; Fowls for the Table and Market, by Colonel M. C. Weld; Barb Wire, and the Fence Question, by H. M.

Smith; Agricultural Machinery and Implements, by Hon. J. S. Grinnell; Forest Fires, by Prof. C. S. Sargent; Breeding of Horses, by J. E. Russell. The Report of the Experiment Station forms an appropriate appendix to the volume.

Ohio Agricultural Experiment Station.—First Annual Report, by *Prof. W. R. Lazenby*, director. This report of the station, which was only organized eight months ago, and can hardly be expected to be more than ready for work, is highly creditable to the energy and ability of its director. Aware of the great needs of a proper understanding among farmers of the objects and possibilities of Experiment Stations, the director gives a short history of the origin and work of the numerous European Stations, together with a brief sketch of those now in existence in our own country. Several carefully planned experiments with Wheat, Corn, Potatoes, and various fruits and vegetables have already been made during last summer, and many more extensive ones are in course of progress.

The report on injurious insects found in the State gives short descriptions of the most common and disastrous kinds, and the best remedies against them. Its advice and suggestions are of great practical value, and deserve the careful study of every farmer and gardener in the State.

The Station is now prepared to analyze and test fertilizers, manures, soils, waters, milks, cattle-food; to examine seeds, to identify and name weeds and other plants, and all work that comes properly under its province. Everything seems to be favorable to the accomplishment of much useful work except the means for its maintenance. The paltry three thousand dollars appropriated by the Legislature are barely enough to begin with. Give it ten thousand dollars a year and Director Lazenby will soon make it second to none in the country, and its cost will be a hundred-fold repaid to the farmers of the State.

ANSWERS TO CORRESPONDENTS.

California Lilies.—*M. I. F., Claverack, N. Y.*—The bulbs sent are not Lilies proper, but Narcissus or some allied germs. We have planted them and shall report results.

Eucalyptus.—*Mrs. J. F., St. Louis, Mo.*—The Eucalyptus, or Fever Gum Tree, is not hardy anywhere where the temperature falls much below the freezing point at any time; consequently cannot survive a Missouri winter. The tree thrives remarkably well in southern California.

Insects on Sweet Alyssum.—*W. F. B., Nashville, Tenn.*—We have had better success with "Slug Shot" in destroying insects depredating upon flowers than with any other insecticide. The powder should be lightly dusted over the plants in the early morning, when the foliage is wet with dew.

Lilies Rotting.—*S. L. D., Utica, N. Y.*—Without having a detailed account of the conditions under which Lily bulbs have been placed, it is impossible to tell the cause of their rotting, but the probability is that the ground is not sufficiently drained, or that the bulbs have not been planted deep enough. Many bulbs, especially when planted in spring, remain dormant during the first season, but, if well cared for and protected during the winter, make a fine growth the following year.

Pickling Cucumbers.—*W. S. W., Shawano, Wis.*—In pickle houses Turk's Island salt is generally used, but the purer the salt the better pickles it makes, and when a first-class article is desired only pure factory-filled salt should be used. It requires about half a bushel of salt for a barrel of pickles, but the only safe guide for the proper strength of brine is the *salometer*. Brine in which pickles are kept should never be below fifty degrees in density, and when it falls below this point more salt must be added. There is little danger from having the brine too strong, but a great deal when too weak.

Classification of Pansies.—*Mrs. R. S., Franktown, Nev.*—Pansies are generally divided into *Self-Colored*, showing an even shade of color; *Three-Spotted or Face Pansies*, having a distinct "face" or mark in the center; *Five-Spotted or Odier Pansies*, with a dark spot on each petal; *Edged or Bordered Pansies*, showing a distinct edge or border of white or yellow around each petal; and *Fancy Pansies*, which include striped, flaked, marbled, and shaded varieties; in fact, most anything odd that does not fit in any of the other classes. Under *Show Pansies* are understood such of any class that have special merits or attractions for exhibition purposes.

Bermuda Easter Lily.—*E. W., Indianapolis.*—*Lilium Harrisii* and *L. longiflorum floribundum* are both "Bermuda Easter Lilies," and if there is any real difference between them it is so slight that many florists even cannot discover it, and consider them identical. *L. longiflorum* grows in great luxuriance in the Bermudas, although not indigenous there, and produces a great many natural seedlings. One of the bulbs was brought to the United States some years ago, and the progeny of this was named *L. Harrisii*, while the bulbs imported afterward were introduced as *L. longiflorum floribundum.* So, whether one calls it "six," and the other "half a dozen," neither can be far from right.

Macramé Lace.—To use Cotton instead of Flax in Making Macramé Lace is to use Tinsel for Gold.

An Accurate Watch.—The watches offered by *Messrs. Cummings & Co., N. Y.*, and advertised for some time in our columns, are, we believe, well worth the price asked for them, and fully up to representations. The firm is favorably known here, and considered perfectly reliable by business men.

Wall Paper.—H. Bartholomae & Co., 124 & 126 West Twenty-third street, New-York, send their book on decorations free to all applicants. It contains several beautiful designs for decoration, and many useful hints to those who wish to paper and otherwise decorate their houses.

James Pyle's Pearline is so well and favorably known throughout the country as to have become almost a household word. We speak from personal experience when we say, that J. Pyle's soaps are first class in every respect, and well worth a trial by any one not acquainted with their good qualities.

NEW-YORK, March 19th, 1883.

S. F. HAYWARD, Gen. Agent
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Dear Sir: Please send to Sparkhill, N. Y., one box of charges for my Babcock Fire Extinguisher. The value of my Extinguisher was tested on Saturday last, when a neighbor's stable was saved from destruction by its prompt use by our gardener. But for his activity in carrying it nearly half a mile, the fire would probably have destroyed much property.

Respectfully yours,
WINTHROP S. GILMAN.

6

Perhaps in no other way do accidents happen so frequently as by slips and falls, causing sprains or broken limbs, in the simple act of walking. Statistics dispel the illusion that those who do not travel are safe from accidents. THE UNITED STATES MUTUAL ACCIDENT ASSOCIATION, 320 and 322 Broadway, New-York, offers the protection of a $5000 policy, with $25 per week indemnity, for $4 membership fee. Annual cost thereafter about $12. Write or call for circular and application blank.

7

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No manufacturer can show the amount of business transacted during the last four months that Mr. Beatty does. His shipments have been: December, 1410 organs; January, 1102 organs; February, 1152 organs; March, 1435 organs, besides some 543 pianofortes. His factory is taxed to its utmost capacity, running day and night. He has the largest and most complete factory in America; no one deserves success more than Mayor Beatty, for he understands and caters to every wish of the music-loving populace, and has his reward in the world-renowned reputation which his incomparable instruments have attained.

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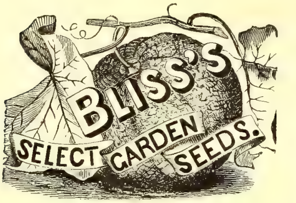

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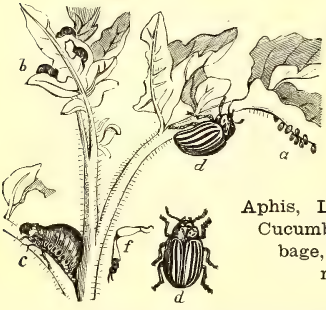

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It is an impalpable powder, and *does not harm vegetation;* on the other hand, it is a manure. *Dust it on the plants plentifully,* either by hand or with a dusting-tin. You can easily make a duster by taking an old fruit can, perforating the bottom, and nailing the can to a stick.

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When plants are small, about 20 pounds are needed; or, *take a handful and throw it over each hill, covering the leaves.* It does no harm to plants, but, on the contrary, invigorates them greatly.

The color and odor of **SLUG SHOT** prevents it in any way being mistaken or used for wrong purposes, and its composition is such that it is out of the question for a human being or quadruped to take enough to do any harm. Mr. Hammond, *the originator,* and his men *have worked days and weeks in it without any ill effects whatever.*

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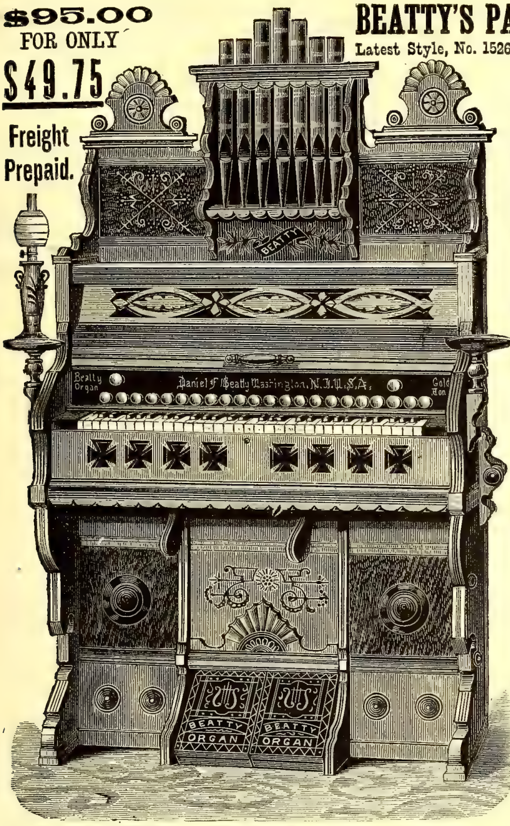

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this
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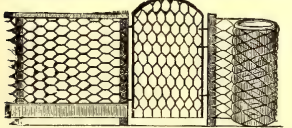

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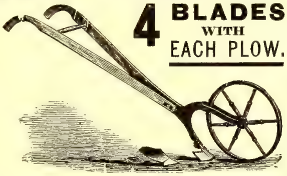

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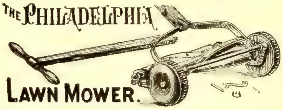

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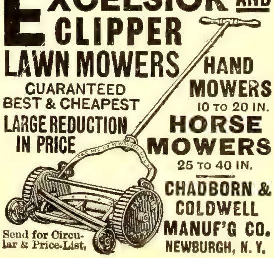

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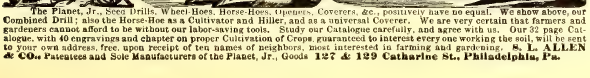

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CLAMS ARE NOT A PROPER MODEL FOR A HUMAN BEING TO COPY AFTER

they are wedded to their old clam-like notions:—they open their shells to take in their accustomed food, *but they shut up very tight when anything new comes along*

FOR THEY ARE CLAMS

and dont propose to allow things to penetrate their shells that were unknown to their grandfather clams and to their grandmother clams:

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ONLY THINK! ONE SOAP FOR ALL USES!

To the Housekeeper and her Help, to the Boarding-House Mistress and her Lady Boarders, to the Farmer's Wife and her Daughters, for the Toilet and Bath of Every Lady of Refinement, The Frank Siddalls Soap offers great advantages in Economy of Use, in its effect on the Skin, and in its freedom from injury to the fabric.

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JUST THINK! No Scalding or Boiling! No Smell on Wash-day!
Clothes Clean and Beautifully White, and as Sweet as if never worn!
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Where water or fuel is scarce remember that with The Frank Siddalls Soap ***much less fuel*** *is necessary, and* ***a few buckets of water*** *is enough for a large wash.*

JUST THINK! Flannels and Blankets as soft as when New!
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And best of all, the wash done in less than half the usual time!

Use The Frank Siddalls Soap for Washing Dishes:—it is the only Soap that leaves the dish-rag Sweet and White, and the only Soap that can be depended upon to remove **the smell of Fish, Onions, etc., from forks and dishes. When you have a dirty dish-rag** dont blame your servants; *it is not their fault;* for you have given them soap made of Rancid Grease, and the result is a foul dish-rag; use The Frank Siddalls Soap, made of Pure Beef Suet, and you will have a Clean, Sweet-smelling Cloth.

So here is the Housekeeper's Choice:
Common soap and a foul dishrag-or-Frank Siddalls Soap and a dish-rag to be proud of

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This is where The Frank Siddalls Soap appeals to the real ladylike Housekeeper. Use it for Scrubbing and Cleaning. Use it for Washing Paints, Windows and Mirrors, Wine-glasses, Goblets, and all Glass Vessels; ordinary soap, as is well known, is not fit for washing glass; while The Frank Siddalls Soap is a most elegant thing for this purpose. **Use it for Washing Marble Door Steps, Bureau Tops, Marble Statuary, Mantlepieces, etc:**—*It is the nicest thing for marble that can be imagined.*

For Washing Bed-clothes and Bedding, even of Patients with Contagious and Infectious Diseases, and for washing utensils used in the Sick-room, it can be relied on to cleanse and purify without scalding or boiling a single article.

—FOR WASHING BABIES AND BABY CLOTHES—

Babies will not suffer with prickly heat or be troubled with sores of any kind when nothing but The Frank Siddalls Soap is used, **its ingredients being so pure and mild.**

Dont use Soda to wash nursing bottles or gum tubes—*dont even scald them*—but wash them only with this Soap, and they will never get sour, but will always be sweet and clean.

—FOR THE SCHOOL BOY AND GIRL—

It is the best thing for washing blackboards and school slates, leaving them entirely free from grease, and without causing a scratch; the soap does not have to be rinsed off

FOR MEN TO READ

ONLY THINK! ONE SOAP FOR ALL USES!

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Its heavy, lasting Lather is so different from that of any Shaving Soap that its superiority is incredible; the face never burns or smarts, no matter how dull the razor, how tender the skin, or how closely shaved, *and the Sponge and Soap Cup will always be sweet-smelling.* **IMPORTANT FOR SHIPBOARD AND ARMY USE:—It washes freely in hard water, and where water is scarce, remember that The Frank Siddalls Way of Washing only takes a few buckets of water for a large wash.**

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It is vastly superior to Castile Soap for washing a horse's mane and tail, while for washing Sores, Galls and Scratches *it is indispensable.* No stable is complete without it. For Harness, it is better than Harness Soap, thoroughly cleansing the leather and rendering it soft and pliable, while for washing cars and car windows, cleaning the running-gear and bodies of fine carriages, it is without a rival; by its use paint and varnish will last much longer, **and the Windows and Lamps will be as clear as crystal.**

The Frank Siddalls Soap is elegant for washing Printing Ink from the hands, and from Printers' Rollers, Type and Electrotypes, being much better than Benzine and safer, as shocking accidents by fire often occur from Benzine, and parents whose children use Amateur Printing Presses should remember this.

Type and Rollers washed with The Frank Siddalls Soap are in splendid condition for immediate use, and will take the ink readily.

SPECIAL FOR PHYSICIANS

To the Physician, the Druggist, the Nurse, and the Patient, its importance is becoming more and more widely known and appreciated, and it is rapidly superseding Imported Castile and similar soaps for use in the **Sick Room, the Nursery and Hospital.**

—IN CASE OF INGROWING TOE-NAILS—

In place of cotton-wool, a little of The Frank Siddalls Soap should be kept pressed between the nail and tender flesh—one trial will prove its superiority over cotton-wool

—AS AN ANTISEPTIC AND DISINFECTANT—

For Washing Old Running Sores, Bed Sores, Cuts, Wounds and Burns; for washing **Chafed Places on Infants and Adults;** for use by persons suffering with **Salt-Rheum, Tetter, Ringworm, Itching Piles, Eruptions on the Face,** and for children afflicted with **Scaly Incrustations,** it is without any of the injurious effects so often experienced when any other soap is used, while for washing the invalid **it is a most valuable aid to the Physician,** by the thoroughness with which it removes the exhalations from the skin that would otherwise tend to counteract the action of his medicines by closing up the pores, **and which cannot be accomplished by any other soap.**

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Use it for Washing Sores on the Feet, caused by walking or wearing tight shoes. Always leave plenty of the lather on—dont rinse the lather off.

For Washing Graduate Measures and Mortars it is better than anything else.

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the offer of

A PREMIUM

to the Wife of every Grocer

IN THE UNITED STATES:—

The Premium is a most elegant one
and is undoubtedly sent
FREE OF CHARGE
after a thorough trial of the Soap
has been made
(even where her husband)
(does NOT sell the Soap)
and enough soap to make the trial
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FREE OF CHARGE.

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Demorest's
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(*The Great Metropolitan Fashion Authority from the Atlantic to the Pacific*)

Gives her personal endorsement of The Frank Siddalls Soap, and recommends its trial by every housekeeper.

Use The Frank Siddalls Soap for Washing Dishes

The Boston Pilot
One of the most valuable advertising mediums in New England, with a circulation exceeding that of any other Catholic Journal in the United States and an authority throughout America and Europe, says:—

The announcements of The Frank Siddalls Soap are a welcome addition to the columns of "*The Pilot*," as it is one of the few advertised articles that comes fully up to every claim made for it, and every man and woman should give it a trial.

SPECIAL PREMIUM TO THE WIVES OF GROCERS

A most Magnificent Premium can be had by the Wife of every Grocer in the United States.

The Premium is a very handsome Velvet Plush Case, containing 6 Heavy Plated Silver Knives and 6 Forks, manufactured specially for this purpose, and guaranteed to be the finest quality made.

The Premium is given to the Wife of a Grocer even if her husband does not sell The Frank Siddalls Soap

It will be sent *after* she has made a *Thorough Trial* of the Soap, and enough Soap to make the trial will be sent *Free of Charge*

The Wife of a Grocer who desires to get this Valuable Premium *MUST* Try a cake of The Frank Siddalls Soap on the whole of the regular family wash *strictly by the very easy directions*, and then send word by mail to the office in Philadelphia, together with business card or printed advertisement of some kind to show that her husband is a grocer, or send a bill for groceries bought of some wholesale grocer.

If you sell the Soap you can get a cake out of the store to try:—
if not, a cake will be sent by mail, *FREE OF CHARGE*, if the 2 promises are made

(The Premium is NOT sent until AFTER a thorough Trial of the Soap has been made.)

FOR THE TOILET IT IS SIMPLY PERFECTION

All perfumes are injurious to the skin; *The Frank Siddalls Soap is not perfumed,* but has an agreeable odor from its ingredients, **that is always pleasant, even to an invalid;** it never leaves any odor on the Skin; the face never has any of the unpleasant gloss that other soaps produce; it should always be used for washing the hands and face of those troubled with Chapped Skin:—**a child will not dread having its face washed when The Frank Siddalls Soap is used,** as it does not cause the eyes to smart with the dreaded intense sting that even Imported Castile Soap often causes; **it always leaves the skin Soft and Smooth.**

No tooth-powder or tooth-wash will compare with it.
A little on the tooth-brush makes the mouth, teeth and gums perfectly clean.
It leaves a pleasant aromatic taste, a sweet breath, and a clean tooth-brush.
——TRY IT FOR WASHING YOUR EYE-GLASSES AND SPECTACLES——

PERSONS WHO DESPISE A MUSTY SPONGE or WASH-RAG will appreciate The Frank Siddalls Soap. Whenever a Sponge has a disagreeable smell, it is due entirely to the so-called fine toilet soap that is such a favorite with you; it is the place of soap to keep a sponge or wash-rag sweet and clean, and The Frank Siddalls Soap will do it without any occasion to expose it to the air or sun.

It is especially adapted for toilet use with the hard water of the West and in Lake-water

When used for washing the head it is better than shampooing; plenty of the rich, white lather should be left in the hair (*not washed out:*) **it entirely does away with the use of Hair Tonic, Bay Rum, Bandoline, Pomade or any hair dressing.** Used this way it removes dandruff, the hair will not collect dust, and there will not be any itching of the Scalp:—**Coat Collars, Hat Linings and Neck-wear will keep clean much longer. The Frank Siddalls Soap is superior to Benzine or Ammonia for Cleaning Coat Collars, and for removing grease spots, etc., and is guaranteed not to injure the garment.**

ODD USES—QUAINT USES—SPECIAL USES

Eminent Physicians claim that skin diseases, such as **Tetter, Ringworm, Pimples,** etc., are caused by Soap made from rancid grease:—use The Frank Siddalls Soap and avoid all such troubles.

Artificial Teeth and Artificial Eyes will retain their original brilliancy unimpaired when kept washed with The Frank Siddalls Soap.

It washes Telescope Lenses and Photographers' Plates without a possibility of scratching them, while it is being used with the most gratifying results in **Schools of Design** for washing the expensive brushes used by the students.

For Washing Pearls, Coral, Diamonds and other precious stones, Jewelry, Gold and Silver Plate, and for cleaning Watch Crystals, it is considered by Jewelers superior to any powder or other preparation.

If you have a Pet Dog wash it with The Frank Siddalls Soap; be sure to leave plenty of the lather in its hair, and you will be surprised at the improvement; a dog washed occasionally with this Soap will be too clean to harbor fleas.

Use it for taking grease spots out of fine carpets and for cleaning rag carpets; also for cleaning garments of every description. It is better than Benzine or Hartshorn for cleaning clothing, and is guaranteed not to injure the fabric.

Use it for wiping off oil cloths, linoleum, &c.—**IT KEEPS THE COLORS BRIGHT,** *and as it does away with scrubbing them, they will of course last much longer.*

The hands of those at farm work, when The Frank Siddalls Soap is used, *will not chap* from husking corn, driving teams, and other out-door employment, ***but of course*** toilet soap, home-made soap, or any other kind **MUST NOT BE USED (*not even Castile Soap*)**

It is invaluable to farmers for washing wool before carding it or before selling it.

Milk Pans, Churns, and all Milk Utensils when washed with The Frank Siddalls Soap will be as clean and sweet as new, and do not require scalding or putting in the sun. It also THOROUGHLY removes the smell from the hands after milking

HOW A LADY CAN GET THE SOAP TO TRY

at Places where it is Not Sold at the Stores.

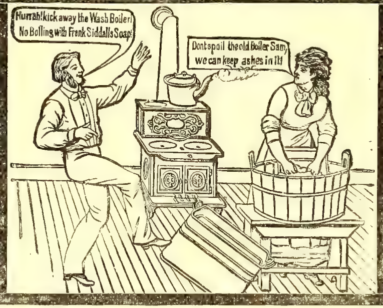
Send the retail price 10 cents in money or postage stamps.
Say she saw the advertisement in "THE AMERICAN GARDEN."
Only send for One Cake, and make these 2 promises:

Promise No. 1—That the Soap shall be used *the first wash-day* after receiving it, *and that every bit of the family wash shall be done with it.*

Promise No. 2—That *the person sending will personally see* that the printed directions for using the Soap shall be *exactly* followed.

By return mail, a regular 10-cent cake of Soap will be sent, *postage prepaid;*
it will be packed in a neat iron box to make it carry safely,
and 15 cents in POSTAGE STAMPS will be put on.

All this is done for 10 cents,
because it is believed to be a cheaper way to introduce it than to send salesmen to sell it to the stores.


Hurrah! kick away the Wash Boiler!
No Boiling with Frank Siddalls Soap!
Dont spoil the old Boiler Sam, we can keep ashes in it!

How to Tell a Person of Refinement.

A Person of Refinement will be glad to adopt a New, Easy, Clean Way of Washing Clothes, in place of the old, hard, sloppy way.

How to Tell a Person of Intelligence.

A Person of Intelligence will have no difficulty in understanding and following the very easy and sensible directions.

How to Tell a Person of Honor.

A Person of Honor will scorn to do so mean a thing as to buy the Soap and not follow directions so strongly urged.

How to Tell Sensible Persons.

Sensible Persons will not get mad when new and improved ways are brought to their notice, but will feel thankful that their attention has been directed to better methods.

And now dont get the old wash-boiler mended, but next wash-day give one honest trial to The Frank Siddalls Way of Washing Clothes.

A Wash-boiler MUST NOT be used, *NOT EVEN TO HEAT THE WASH-WATER,* and as the wash-water must only be lukewarm, a small kettle holds enough for a large wash.

A Wash-boiler will always have a deposit formed on it from the atmosphere, *in spite of the most careful Housekeeper,* which injures the delicate ingredients that are in this Soap.

Be sure to heat the water in the tea-kettle the first time, *no matter how odd it seems.*

Wash the White Flannels with the other White Pieces.

Be sure to always make the last water soapy; the clothes will NOT smell of the Soap, *but will be as sweet as if never worn,* and stain that have been overlooked in washing will bleach out while drying, and the clothes will iron easier.

Always dissolve a small piece of Soap in the starch: it makes the ironing easier, and the clothes handsomer.

The Frank Siddalls Soap washes freely in hard water without Soda, Lye, or any washing compound;

dont use *Borax, Ammonia, or any other Soap on any of the wash*

FIRST—Dip one of the garments in a tub of lukewarm water; draw it out on a wash-board and rub the Soap LIGHTLY over it so as not to waste it, being particular not to miss soaping any of the soiled places.

Then ROLL IT IN A TIGHT ROLL, just as a piece is rolled when it is sprinkled for ironing, lay it in the bottom of the tub under the water, and go on the same way until all the pieces have the Soap rubbed on them and are rolled up.

Then go away for 20 minutes to one hour—by the clock—and let The Frank Siddalls Soap do its work.

NEXT—After Soaking the FULL time, commence rubbing the clothes LIGHTLY on a wash-board AND THE DIRT WILL DROP OUT; turn the garments inside out to get at the seams, *but DONT use any more Soap;* DONT SCALD OR BOIL A SINGLE PIECE OR THEY WILL TURN YELLOW; and DONT wash through two suds. If the wash-water gets too dirty, dip some out and add a little clean water; if it gets too cold for the hands, add hot water out of the tea-kettle.

If a streak is hard to wash, rub some more Soap on it and throw it back into the suds for a few minutes.

NEXT COMES THE RINSING—which is to be done in lukewarm water, AND IS FOR THE PURPOSE OF GETTING THE DIRTY SUDS OUT, and is to be done as follows: Wash each piece LIGHTLY on a wash-board through the rinse-water (*without using any more Soap*) AND SEE THAT ALL THE DIRTY SUDS ARE GOT OUT. ANY SMART HOUSEKEEPER WILL KNOW JUST HOW TO DO THIS.

Next, the Blue-water—which can be either lukewarm or cold: Use little or no Blueing, for this Soap takes the place of Blueing. STIR A PIECE OF THE SOAP in the blue-water UNTIL THE WATER GETS DECIDEDLY SOAPY. Put the clothes THROUGH THIS SOAPY BLUE-WATER, wring them and hang up to dry WITHOUT ANY MORE RINSING and WITHOUT SCALDING or BOILING A SINGLE PIECE.

Afterwards soap the Colored Pieces and Colored Flannels, let them stand 20 minutes to 1 hour, and wash the same way as the White Pieces, being sure to make the last rinse-water soapy.

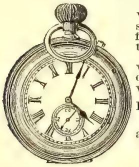
The most delicate colors will not fade when washed this way, but will be the brighter.

Address all Letters:—Office of THE FRANK SIDDALLS SOAP, 1019 CHESTNUT STREET, PHILADELPHIA

(Every Farmer can now have a good Watch.)

THE

ACCURATE WATCH



A perfect Timekeeper, Stem Winder and Stem Setter, in solid German Silver. Open-faced Case. Nickel-plated in the best manner.

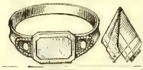
A sound, strong, and reliable watch, and the best ever offered for the money, and warranted for one year.

PRICE TEN DOLLARS.

Send for Illustrated Circular, and mention *American Garden*

(About one-third size.)

CUMMINGS & CO.
38 Dey Street, New-York.



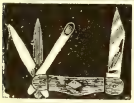
50 Satin Enamel Chromo Cards, **10c.** Latest imported designs. **11 packs** & this elegant **Ring** or a beautiful imported **Silk Handkerchief** for **$1.** Illus'd list with **large sample book, 25c.** **F. W. Austin,** New Haven, Ct.

THE GREAT AMERICAN TEA COMPANY.

GOOD NEWS TO LADIES!

Now's your time to get up Orders for our CELEBRATED TEAS and COFFEES, and secure a beautiful **MOSS ROSE or GOLD-BAND CHINA TEA-SET** (44 pieces), our own importation. One of these beautiful china sets given away to the party sending an order for $25. This is the greatest inducement ever offered. Send in your orders and **enjoy** a cup of GOOD TEA or COFFEE, and at the same time procure a HANDSOME CHINA TEA-SET. No humbug. Good Teas, 30c., 35c. and 40c. per lb. Excellent Teas, 50c. and 60c., and very best from 65c. to 90c. We are the oldest and largest Tea Company in the business. The reputation of our house requires no comment. We have just imported some very fine WHITE GRANITE DINNER SETS, 115 pieces, which we give away with Tea and Coffee orders of $40 and upwards. For full particulars address

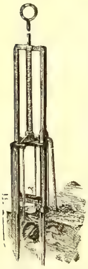
THE GREAT AMERICAN TEA COMPANY.
P. O. Box 289 **31 and 33 Vesey St.,** NEW YOR



BIG OFFER. To secure future trade, we will, on receipt of **5—3ct.** Stamps, and Names and Address of 4 friends, send this Elegant Tortoise-Shell 4-blade 4½ inch Steel Knife with Toothpick and Toilet Blade, or **2** for **25** cts. and 8 Names.

Address,

B. LOWEY, 85 Nassau St., N. Y.



HALES'S PATENT MOLE TRAP

For destroying ground moles in lawns, parks, gardens, and cemeteries. The only "perfect" mole trap in existence. Thoroughly tested for years. GUARANTEED to be superior to all others. Sold by all Seedsmen and Agricultural Implement Dealers. Illustrated Circulars sent free to any address.

H. W. HALES,
Ridgewood, N. J.

EL CAJON LAND COMPANY,

SAN DIEGO, CALIFORNIA.

We offer, on very reasonable terms as regards price, time of payment, and rate of interest, 3500 **Acres of Choice Fruit Land** in Colony of El Cajon, 14 miles from the City of San Diego. The land is surveyed and mapped, avenues and streets laid out from 90 feet to 60 feet wide, and some of them graded. **School-house, Hotel, and Post-Office established.**

The raisins made from the grapes grown here are the finest in California, and superior to the Malagas of the same grade. All other fruits unequaled in quality. For climatic condition, reference is made to United States Signal Service reports for this city. Send for pamphlets to office of Company.

JAS. H. BENEDICT, President.

Photo. by an Amateur, 10c.
With Instruction Book, 30c.

Photography Made Easy.

For the Old and the Young; for Ladies and Gentlemen; for the Professor, the Student, the Artist, the Mechanic, and the Tourist.

No Stains. No Trouble.

Book of Instruction free with each equipment. Send for price list. Our apparatus is superior to all others at same price, having patented improvements. Our Gelatino-bromide Dry Plates are also the best.

E. & H. T. Anthony & Co. 591 Broadway, New-York.

A Skin of Beauty is a Joy Forever.

DR. T. FELIX GOURAUD'S

Oriental Cream, or Magical Beautifier

PURIFIES
AS WELL AS
Beautifies the Skin.

Removes Tan, Pimples, Freckles, Moth-Patches, and every blemish on beauty, and defies detection. It has stood the test of thirty years, and is so harmless we taste it to be sure the preparation is properly made. Accept no counterfeit of similar name. The distinguished Dr. L. A. Sayre said to a lady of the *haut ton* (a patient): "*As you ladies will use them, I recommend 'Gouraud's Cream' as the least harmful of all the Skin preparations.*" One bottle will last six months, using it every day. Also Poudre Subtile removes superfluous hair without injury to the skin.

MME. M. B. T. GOURAUD, Sole Prop., 48 Bond St., N.Y.

For sale by all Druggists and Fancy Goods Dealers throughout the U. S., Canadas, and Europe.

☞ Beware of base imitations. $1000 Reward for arrest and proof of any one selling the same.

AGENTS WANTED, GENERAL OR LOCAL,

for the **MANHATTAN LIFE INSURANCE COMPANY, of New-York City.** Organized in 1850. Assets over $10,600,000, securely invested; a large and profitable business, and a surplus of over $2,300,000, according to the report of the Insurance Department of New-York. Apply, with reference,

HENRY STOKES, President.

WATCHES Low priced and reliable. Circulars free.

CUMMINGS & CO. 38 Dey St. N. Y.

THE DINGEE & CONARD CO'S
BEAUTIFUL EVER-BLOOMING

ROSES

The **only** establishment **making a SPECIAL BUSINESS of ROSES. 60 LARGE HOUSES for ROSES alone.** We **GIVE AWAY,** in **Premiums** and **Extras,** more **ROSES** than most establishments grow. Strong Pot Plants suitable for immediate bloom delivered safely, post-paid, to any post-office. **5** splendid varieties, **your choice,** all labeled, for **$1; 12** for **$2; 19** for **$3; 26** for **$4; 35** for **$5; 75** for **$10; 100** for **$13.** Our **NEW GUIDE,** *a complete Treatise on the Rose,* 70 pp. *elegantly illustrated, free to all.*

THE DINGEE & CONARD CO.
Rose Growers, West Grove, Chester Co., Pa.

NEW GRAPES & OLD.
THE Jeffersona A SPECIALTY.
AN ILLUSTRATED CATALOGUE FREE
J. G. BURROW. FISHKILL N. Y.

CAYUGA LAKE NURSERIES

(Established 1855.)

NEW **STRAWBERRIES** RASPBERRIES, BLACKBERRIES. Fruit and Ornamental **TREES,** Roses, etc. Hundreds of Varieties. Prices Low, Stock Pure, **Quality Guaranteed.** *New 32-page Illustrated Catalogue and Price List.* FREE **TO ALL** applicants. Address **H. S. ANDERSON,** Union Springs, N. Y.

SOLUBLE PACIFIC GUANO

SOLUBLE PACIFIC GUANO

For all Farm Crops, Gardens, Lawns and Flower Beds use SOLUBLE PACIFIC GUANO. Concentrated cleanly, free from weed seeds, easily applied, prompt and lasting in its effects. It keeps the lawn green all summer and is unsurpassed for use in general crops.

Pamphlets furnished on application. The trade supplied by

GLIDDEN & CURTIS,
General Selling Agents, Boston, Mass.

Artistic Patterns for

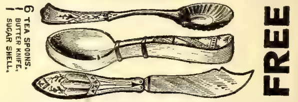
EMBROIDERY AND PAINTING.

Wild Roses, Apple Blossoms, Pansies, Lilies, &c., for all kinds of Embroidery or Painting. Can be easily transferred to any material. **Ten** full-sized working patterns, with powder, distributing pad, and instructions, will be sent, post-paid, for **60** cents; **15** for **$1.00. Book** showing 100 of our newest designs (reduced size), 25 cents.

Manual of Needlework teaches how to do all kinds of Embroidery, Crocheting, Knitting, Lace Making, Rug Making, &c. Address

PATTEN PUB. CO. 47 Barclay St. N. Y.

SILVER-WARE FOR ALL.


6 TEA SPOONS.
1 BUTTER KNIFE,
1 SUGAR SHELL.
FREE

Wishing to introduce our new and beautiful publication, **The Household Guest Magazine,** into every home in the United States where it is not now taken, we make the following remarkable and magnificent **offer to all** who read this advertisement, **relying upon future patronage for our profit.** If you will send us **50** cts., which is the price of a six months' subscription, we will forward you

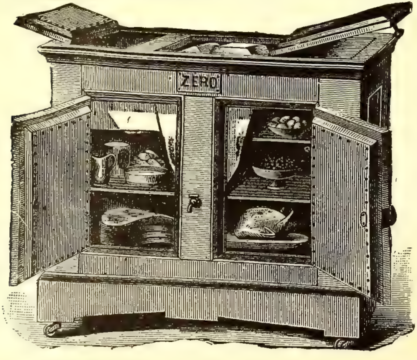
ONE SILVER-PLATED BUTTER KNIFE,
ONE SILVER-PLATED SUGAR SPOON,
SIX SILVER STEEL-PLATED TEA SPOONS,

packed in a neat box, all charges prepaid. These goods are worth and are sold for more than twice the subscription price, and if not perfectly satisfactory may be returned, and we will refund the money in every case. **Our only object** in making this offer to you is to place in your hands the best and most popular Family and Story paper in the United States, believing you will always remain a subscriber after once seeing it. **The Household Guest Magazine** is a perfect family paper in every sense of the word. Containing 80 columns of choice reading matter, such as Stories, Sketches, Anecdotes, Poems, Farm and Garden, Household, Illustrated Fashion Department, &c., &c. We are positive when once introduced into a family it will always remain, and we shall always have you as a permanent subscriber. Our list of contributors embrace the best talent of the world. Our Firm is known as one of the most reliable in the United States, and doing a business of **$500,000** yearly with the country people as we do, we could not afford to misrepresent. We refer to any New York publishers as to our reliability. Show this to your friends, and get five to join you, and we will send you your subscription free. Address all orders to

E. C. RIDEOUT & CO., 10 Barclay St., New York.
☞ **Cut this out, it will not appear again.**

Potato Bug Poison. **LONDON PURPLE** Potato Bug Poison.
TRADE MARK.

☞ If nearest dealer has not got it, write to **HEMINGWAY'S LONDON PURPLE CO. (Limited), P. O. Box 990, No. 90 Water Street, New-York,** who will send prices and testimonials.



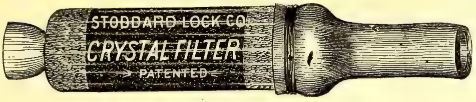
ZERO REFRIGERATOR,

With Water, Wine, Milk, and Butter Cooler. The best Meat, Fruit, Fish, and Ice Preserver in the world; 40,000 in use. Grand award of merit by the Centennial Exhibition; also by the New England Agricultural Society, 1870, 1878; American Institute, 1867, '69, '71, '75, '76, '78, and 1880. NO DRIP; NO WATER ON THE FLOOR. 50 per cent. saving in ice.

☞ Send for Catalogue.

ALEX. M. LESLEY,
Manufacturer,
1343 Broadway, N. Y.

DON'T DRINK DIRTY WATER.



ONE-HALF SIZE OF FILTER.

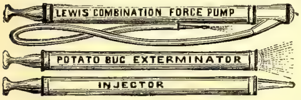
No house should be without one; also indispensable to travelers. It is a genuine FILTER, AND WILL LAST FOR MANY YEARS.

Price 50 cts. each. Mailed free.

STODDARD LOCK CO.
104 Reade St. N. Y.

LEWIS'S COMBINATION FORCE PUMP

Makes Three Machines. Made of Brass Throughout. My Agents are making $5 to $30 per day.



(The above shows the three Combinations.)

ANOTHER NEW IMPROVEMENT IS

The Lewis Patent Spray Attachment.

Can change Instantly from Solid Stream to Spray.

Don't Fail to Read this Splendid Offer.

I will send a sample Pump, express paid, to any express station in the United States or Canadas for $5.50; regular retail price, $6.00. Weight, 4½ lbs.; length, 32 in. I also manufacture the "Potato-Bug Exterminator or Agricultural Syringe" separate. Price, post-paid, zinc, $1.25; polished brass, $1.75. Send for Illustrated Catalogue, Price-list, and Terms to Agents, etc. I give a long list of customers, each of whom has bought from $50 to $2000 worth of these goods in from one to three weeks' time. You can make from $10 to $20 per day. Agents wanted everywhere.

P. C. LEWIS, Catskill, N. Y.

200 PER CENT. for the RETAILER.

PATENT BLUING BAGS.

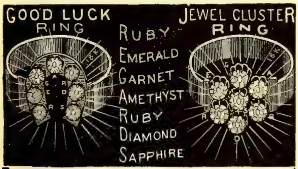
THE BEST LAUNDRY BLUE IN THE WORLD.

No Waste. No Broken Bottles. One box, price 10 cents, goes further than four 6 ounce bottles of Liquid Blue.

"THERE'S MONEY IN IT."

Liberal Terms to the Grocery Trade. **Send for Samples and Circular to**

C. T. RAYNOLDS & CO. 106 and 108 Fulton Street, New-York.



The above handsome **SOLID RINGS** are made of **18 KARAT ROLLED GOLD,** and either will make a **BEAUTIFUL** and **VALUABLE** gift to a Lady or Gentleman. In order to secure **NEW CUSTOMERS** for our firm, we will forward post-paid, to any address in the United States or Canada, one of our **HEAVY 18 KARAT ROLLED GOLD RINGS,** mounted with **PRECIOUS STONES** on receipt of **ONLY 98c.** each, in silver or postage stamps, provided you **CUT THIS ADVERTISEMENT OUT,** and mail it to us with your order **ON OR BEFORE SEPT. 1, 1883.** We will engrave any **INITIAL, NAME, MOTTO** or **SENTIMENT** on the inside of the ring without extra charge. We make these rings in two different styles and have named them

Good Luck and Jewel Cluster Rings

Each ring is set with one each of the following precious stones, set in the order named. You will notice, that by taking the first letter to spell each of the above stones, you make an **ACROSTIC,** spelling the word **REGARDS.** The stones we use are so perfect that they will deceive any one but an expert and they will pronounce them genuine in many cases.

1 **RURY,**
2 **EMERALD,**
3 **GARNET,**
4 **AMETHYST,**
5 **RUBY,**
6 **DIAMOND,**
7 **SAPPHIRE,**

We also mount the Good Luck and Jewel Cluster rings with seven of our justly celebrated Brazilian Diamonds, which are the best imitation of the **REAL DIAMONDS** ever discovered. We thus offer you four of the handsomest rings ever made, to choose from. At the same time we send your ring, we will mail you a bundle of our Catalogues. We feel sure that you will be so highly pleased with the ring and that it will give such entire satisfaction, that you will become a regular customer of our house and will oblige us by distributing the Catalogues sent you among your friends; at the same time showing them the beautiful ring you have received from us. You can in this way assist us in selling other goods of **STANDARD QUALITY** which we manufacture from new and original designs, and guarantee to give satisfaction. **ON OUR FUTURE SALES WE MAKE OUR PROFIT.** Remember the ring we send you will be heavy **18 KARAT ROLLED GOLD** and this unprecedented offer is made only to introduce our goods and catalogues in your neighborhood. Our firm is **OLD ESTABLISHED, AND RELIABLE,** manufacturing first-class goods from the **PRECIOUS METALS.** We can only send out a LIMITED NUMBER of rings at price named, and to protect ourselves from jewelers and dealers ordering in large quantities we will insert this advertisement but **ONE TIME** in this paper, hence require you to cut it out and send to us, that we may know you are **ENTITLED TO THE BENEFITS OF THIS OFFER.** Under no circumstances will we send **MORE THAN TWO RINGS** to any person sending 98 cents for each, **WITH THIS ADVERTISEMENT,** and should you order more than that number, all your money will be returned and we will hold the advertisement. But after you order, and other rings are desired, we will furnish **18 KARAT SOLID GOLD RINGS** at prices given in our Illustrated Catalogue, ranging from $5 to $15 each. If you wish one ring send this advertisement and 98c. If you wish two rings send this advertisement and $1.86. If more than two are desired you must pay full prices. To ascertain the size ring you wear, cut a piece of paper so it will just meet around your finger and send the slip to us. State which ring is wanted, the

GOOD LUCK OR JEWEL CLUSTER,

and state whether you wish the **ALL WHITE** or **ASSORTED STONE** setting. Also write plainly what you wish engraved on inside of ring and cut this advertisement out and send to us on or before **SEPT 1st, 1883.** Should you be in New York at any time we will be pleased to have you visit our metropolitan headquarters. It is safe to send small amounts through the mails, or you can send by Money Order or Registered Letter. Address,

H. C. WILKINSON & CO., 195 & 197 Fulton St., N.Y.

GOOD

FERTILIZERS

BEST GOODS

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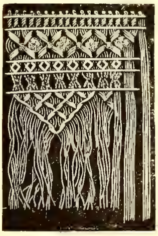

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Five Years' experience with the Mapes Tobacco Manure — Remarkable results during the past season on Tobacco set out July 13th, followed by severe drouth — The largest and heaviest crop of Tobacco, with one exception, we have ever harvested — Large percentage of fine "Wrappers."

G. H. and J. H. HALE, South Glastonbury, Conn., Nov. 25, 1882, write: — It is with much pleasure that we are able, once more, after five years' use of your Complete Tobacco Manure, to report that this year it has done even better than ever. For several years past we have madeit a practice to have tobacco follow strawberries, and as the fruit crop was unusually late this season we did not begin to set our tobacco until the 13th of July. Then came the extreme heat and drouth that about ruined the crop of Tobacco in the Connecticut Valley; and while ours was not rooted deep enough to withstand the drouth and grow much, yet it *retained that deep rich green color* that we always see when using your Tobacco Manure; and although it was not more than six inches high when some of our neighbors began cutting theirs, a light shower the middle of August gave it a start, and, as one of our men said, "you could almost see it grow," for in *three weeks* it was *five feet high* and ready for topping, and we found it almost impossible to pass between the rows to do the work; and when we cut it three weeks after, it was (with one exception) *the largest and heaviest Tobacco we have ever harvested*; and while many of our neighbors that used stable manure and had their crops nearly ruined by the extreme drouth are mourning over crops that will not "strip off" more than ten to twelve hundred pounds of leaf per acre, ours will not fall short of eighteen hundred to two thousand pounds, and will show a far greater percentage of fine "wrappers" than the most of the crops in this valley.

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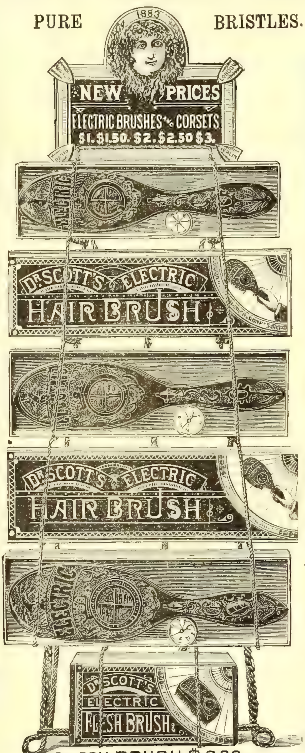
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From the Speaker of the House of Representatives.

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The American Garden
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Vol. IV. NEW-YORK, JULY, 1883. No. 7.

The American Garden.

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Devoted to the Gardening Interests of America.

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DR. F. M. HEXAMER, : : : Editor.

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SIX MONTHS' SUBSCRIPTIONS

For the AMERICAN GARDEN, commencing with the July number, will be received at

FIFTY CENTS

each, and, in clubs of five, at forty cents each.

We make this special midsummer offer to induce those, not already subscribers, in whose hands this may fall, to give our paper a trial.

We would also remind our friends who wish us success, that there is hardly a post-office in the land where a club of five cannot be formed by showing a copy of the paper to those interested in horticulture; and that we will gladly mail a sample copy, *free*, to any amateur or professional gardener whose address is sent us.

HORTICULTURAL EXHIBITIONS.

We desire to draw the attention of our readers to the interesting and excellent description of the recent Paris Horticultural Exhibition, by our esteemed correspondent, *Major W. R. Bergholz.*

There is probably as much money spent for flowers in New-York as in any city in the world, and yet the best exhibition ever held here is far distanced by those to be seen every year in most large cities of Europe. We admit to be at a loss to fully account for the cause of this great contrast. It is certainly not the lack of money; for this is always forthcoming in New-York, when wanted for a good cause, and $110,000 were quickly subscribed for the new Horticultural hall. It evidently requires something beside money and a hall to make good exhibitions and a prosperous society.

PROFITABLE ADVERTISING.

To those of our readers who wish to place their advertisements before the eyes of the best classes of country and suburban residents, the following unsolicited and gratifying comments may be of interest:

From the MAPES FORMULA AND PERUVIAN GUANO CO., *Front Street, New-York.*

"We have had a good chance to test your paper as an advertising medium. With few exceptions, we have appeared in its columns as advertisers during the early spring and summer months since its commencement—probably some seven months out of the twelve each year. We are satisfied that we cannot speak too highly of its value for reaching the best class of farmers, truckers, and fruit growers. Your paper has gained a high position, and exercises a wide influence." CHARLES V. MAPES.

From WOOLSON & CO., *Hardy Plants, Passaic, N. J.*

"We are very much pleased with the results from our advertisement in THE AMERICAN GARDEN, both in orders for plants and catalogues; in fact, we may say candidly that no such returns have been received from any other source, even from papers that charge from four to six times as much per line, and we shall continue our advertisement with your paper." WOOLSON & CO.

From C. T. RAYNOLDS & CO., *Paint Works, Fulton Street, New-York.*

"We take pleasure in stating that we consider THE AMERICAN GARDEN a valuable medium for advertising, our own experience with it having been very satisfactory."

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FROM READERS OF THE AMERICAN GARDEN.

I like THE AMERICAN GARDEN so well that I don't see how any one that has a garden can do without it.—*M. A. B., Mercer Co., W. Va.*

Please send me THE AMERICAN GARDEN for May, which, by some mischance, has not reached me. It is a paper which affords a great deal of pleasure and information, and which I appreciate too highly to lose a single number.—*I. C., Brisbane, Australia.*

Having been a reader of THE AMERICAN GARDEN from its beginning, and having derived much pleasure and information from its pages, I feel it my duty to express the good opinion in which I hold it, and how highly I appreciate the untiring efforts of its editor and publishers to give us such a splendid horticultural paper, which is ever eminently readable, practical, clean, elegantly gotten up, and above all, *timely.* It is certainly a beautiful publication, toward which every American at all interested in horticulture should extend a feeling of pride.—J. T. Lovett, *Monmouth Nurseries, Little Silver, N. J.*

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The Vegetable Garden.

SEASONABLE HINTS.

Killing Weeds.—Most weeds when pulled or hoed up in hot, dry weather, and left on the surface of the ground, will die in a few days, but not so with those of a succulent character. "*Pusley*," Purslane, properly speaking, however, cannot be killed in this manner. It is the veritable salamander of the weed family, bidding defiance to heat and sun. The easiest way to get rid of this pest is to rake it into heaps—the larger the better—between the rows of vegetables. The center of the heap will soon ferment and heat, and in a short time reduce the entire mass to a black blotch upon the ground.

Marketing Vegetables.—Some vegetables must be sent to market in the "rough" for the sake of safe keeping. This reminds us of a case met with not long ago, where a painstaking but poorly informed gardener first shelled his fine harvest of Lima Beans and sent them to market in barrels—in a most superior shape, as he thought. The green Beans just from the pods, thus packed close together, soon molded, and by the time they reached the commission merchant they were only fit for the garbage cart. All the extra labor that had been thus expended to make the choice Beans sell quickly was lost, and the whole crop besides. There are many such cases where the whole work of the gardener is more than thrown away—for there is the freight to pay.

The experienced fruit-grower knows full well that these remarks apply to the marketing of fruits. If the packing is not well done, and the fruit properly sorted, there is often a serious loss. The fruit may be put up in the best condition, and if the customs of the market are not conformed to, it may be difficult to effect a sale, no matter how fine the fruit. The same is true of many products of the vegetable garden. The regular market gardener will keep himself posted about the requirements of a city market. An attractive package is an essential in securing the highest prices.

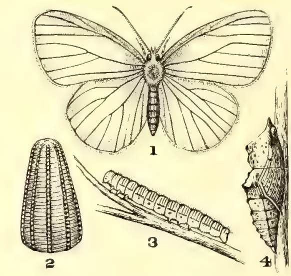
Bushel Crates are easily made, and are very satisfactory for marketing many kinds of vegetables and fruits. The following rule for making a crate to hold exactly a bushel has been given: "Take two end pieces and one middle piece of planed, one-inch stuff, each nine by fifteen inches; to these nail laths twenty-four inches long, leaving spaces of one inch between them, if for Apples and other large articles, but allow less space if String Beans or such small stuff is to be packed. Leave off a few laths until the crate is packed." If a piece of hoop is put around each end of the crate, it will secure the laths—an important matter if the crate is transported to any considerable distance.

A neat Label should go with the crate or other package of fruit or vegetables, giving the names of both the sender and the commission merchant fully and plainly. If those who send any product of the garden to the market would attend to the seemingly little things, there would be large returns for the labor thus expended. It takes as much thought to sell a crop well as to grow it, and in many cases even more.

THE CABBAGE BUTTERFLY.

With the exception of the locust, there are no insects so injurious to vegetation as caterpillars, or the young of butterflies and moths. The Cabbage butterfly *(Pieris oleracea*, fig. 1) may be seen fluttering over Cabbage, Radish, and Turnip beds during the last of May and the early part of June, for the purpose of depositing eggs. The yellowish, pear-shaped, longitudinal-ribbed eggs (fig. 2, highly magnified) are laid on the under side of the leaves, seldom over three on a single leaf, and are about a fifteenth of an inch in length. They are hatched in about ten days; the young larvæ produced from them attain their full growth in about three weeks, and measure about one inch and a quarter in length.

The caterpillar (fig. 3) is of a pale-green color, shaded slightly with yellow on each side; it tapers a very little at both ends, and is covered with short down. Besides Cabbages, this caterpillar consumes various other cruciferous plants. The caterpillars change their coats three or more times. When they have completed the feeding stage, they quit the plants and retire beneath palings, or the edges of stones, where they spin a little tuft of silk, entangle the hooks of their hindmost feet in it, and then form a loop or girdle to sustain the body in a vertical or horizontal position. Bending its body to one side, the caterpillar fastens to the surface, beneath the middle of its body, a silken thread, which it carries around its back and secures on the other side, and repeats this operation until the united threads have formed a band or loop of sufficient strength. On the next day it casts off the caterpillar skin and becomes a chrysalis or pupa. This is of a pale-green or whitish color, regularly and finely spotted with black. The sides are angular, the head is surmounted with a conical tubercle, and over the fore part of the body is a thin projection, having in profile a close resemblance to a Roman nose (fig. 4).



THE CABBAGE BUTTERFLY.

The wings of the butterfly expand about two inches; they are white, but dusky near the body, and the tips of upper ones are yellowish beneath, with dusky veins. The under side of the hind wings is straw-colored, with broad dusky veins, and the angles next to the body are a deep yellow; the back is black, and the antennæ are blackish, with narrow white rings, and ocher-yellow at the tips. There is an early summer (May) and a late summer (July) brood.

Gardeners cannot be too careful in destroying the larvæ of this Cabbage butterfly. The easiest method is to crush them under the foot, as they are easily found by the worm-eaten appearance of the plants. In inclosed gardens, sea-gulls, with their wings clipped, are of service, as they will live entirely on insects, slugs, and worms which may be found in gardens. FRANCIS ROCKETT.

[It is easy enough to find the plants attacked by the "worms," but not so easy to get at the latter, as they crawl and hide between the dense mass of leaves which form the heads. Innumerable remedies have been recommended—pyrethrum, slug shot, Cayenne pepper, soap suds, Paris green, London purple, etc., etc. Many have used hot water with good success. Living Cabbage plants will bear for a short time water hot enough to kill the tender caterpillars. The temperature of 160 degrees is found safe and effective. As water will cool somewhat in the application, allowance should be made that it be of the above temperature when it strikes the worms and surrounding foliage.—ED.]

EXPERIMENTS WITH TOMATOES.

Many growers suppose that to have the Tomato bear early it must be planted on poor soil, and only fertilized in the hill. My experience has been just the reverse, and convinces me that the richer the soil—if warm and light—the earlier the fruit. Rich soil undoubtedly increases the growth of stalk and leaf at the expense of the crop, but this otherwise wasted vitality is, by proper pruning, readily transformed into a tendency for earlier maturity.

To fully test this point, on the 20th of March, 1882, four varieties were sown. For the earliest, Acme and Perfection were chosen; for the latest, Trophy and Paragon. The ground was of medium quality, thoroughly broken to a depth of ten inches, and worked until it became fine and mellow. It was then marked off in rows four feet apart; every three feet in the row a shovel full of composted manure was placed, well worked into the soil, and the plants set out in the center of these hills. In this way five rows were planted, two of them containing all four varieties in such a way as to give a fair test.

The five rows were cultivated every three days, weather permitting, and the two containing all the varieties, after being set two weeks, were heavily top-dressed with well-kept hen manure, thoroughly mixed with the soil. All laterals or suckers were trimmed off, and at the third pruning one row was left to itself and not pruned any more during the rest of the season. Two of the five rows were only topped above the third cluster of blooms, with the exception of the row which had been pruned but twice and half of another; all the vines were staked.

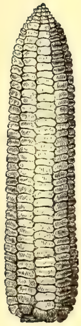
Now, as to the results. In the two rows which had been topped, the fruit was larger than in the others, and ripened fully four days earlier. Ripe fruit was taken from the four varieties on the same day, and fifteen days in advance of those of my neighbors. The half row which was not staked did not produce as fine fruit as the rows that were; and the plants which were pruned but twice bore the poorest fruit of all, and rotted badly, but kept green longer, and bore later than any. Lifting the vines did not appear to be of any advantage.

THOS. D. BAIRD.

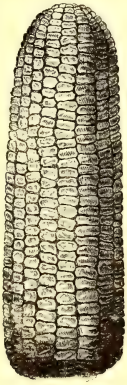
SUGAR CORN.

Sugar or Sweet Corn can be turned to such good account that it may be considered one of the best crops to grow in the garden or on the farm. Where a cow or a pig is kept, the stalks are valuable to feed. If cut up when green, as soon as the ears have matured, and been plucked and given to the cow, they will increase the flow of milk; and fed to the pig, they will take the place of other food. A pig will grow and even fatten on sugar-corn stalks. After the stalks are removed from the ground, it may be sown with Turnips and a double crop obtained.

The largest yield of Corn and stalks is obtained by planting in drills, but care must be taken not to sow the seed too thick in the row. Two kernels should be dropped a foot apart, in a furrow which may be made with a hoe or with a plow. The kernels should be covered about two inches deep; and if the ground is dry, it should be pressed down with the foot or a roller. This will retain moisture better in the soil, and insure quicker germination. Land cannot be made too rich for Corn. The ground should be kept mellow and free from weeds. It is not necessary to draw the earth up around the Corn in the form of hills, as it will do better if the surface is left level. The cultivation ought not to be so deep as to destroy the roots, which grow close to the surface if allowed to grow naturally. By planting later and earlier varieties a continuous crop may be had till cold weather. The earlier kinds will be ready to eat within about sixty days from planting, while the larger kinds require three months. It may be planted as soon as the ground gets warm, but not before, as this seed, unlike most other grain, will rot speedily in cold, wet soil. After the largest and mature ears are taken off, the smaller ones will increase in size and come on for a later crop on the same stalk.



DOLLY DUTTON.



EVERGREEN.

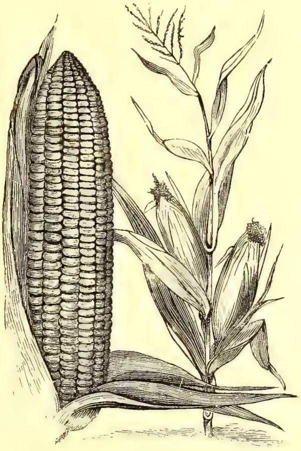
There are now so many excellent varieties of Sugar Corn in cultivation that one can hardly go amiss in making a selection. The earliest to ripen is probably *Dolly Dutton*, followed soon by *Black Mexican*, *Darlings*, *Minnesota*, and *Marblehead;* for medium, *Triumph* and *Moore's Concord* are best, and for late, *Egyptian*, *Evergreen*, and *Mammoth*. *Tuscarora* has a red cob, and remains a long time fit for boiling.

Col. F. D. Curtis.

CROSS-FERTILIZATION.

Recent germination trials made at the New-York State Agricultural Experiment Station offer some important suggestions to the seed-grower. The conclusions derived from them are summed up by Director Sturtevant, as follows:

"In growing seed Beans, we must have our one variety apart from others in order to secure seed certainly true to the variety. Where many varieties are grown together, we should anticipate obtaining seed of hybrid origin, and which would depart to a greater or less extent from the normal variety. This fact seems to be substantiated by the frequent recurrence of sports in Beans planted for crop—sports which were oftener noted in garden than in field varieties.



EGYPTIAN, OR WASHINGTON MARKET.

"The Tomato grower, on the contrary, can grow many varieties upon the same plat, and he can expect to secure seed which shall remain true to name.

"The grower of Cabbage seed must use the greatest care to keep his varieties separated in growing, and it is probable that this necessity for crossing, and the mixing of varieties by the seed-grower, account for the difficulty in obtaining Cabbage seed which is sure to head, or which comes true to name in every case.

"Pea-vines of different sorts can be grown in adjoining rows, and there is a great probability that the seed gathered will come true in every case. In our varieties last year we noted little indications of sporting, and every seed sown seemed to come true to name."

CALIFORNIA GARDEN SEEDS.

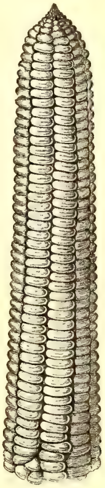
One of the most interesting industrial facts relating to California is that it has been found to be the best place in the Union for the production of various garden seeds. Although this verification has not yet extended to the entire list, there are, says the *San Francisco Bulletin*, at least half a dozen of the more prominent varieties which it is now known can be brought to greater perfection here than elsewhere. Lettuce seed grown here is the best in the world. It will surprise many to learn that not less than 20,000 pounds of this seed were shipped East last season. There is a demand for the seed beyond the supply, since it is now known by Eastern seedsmen that the best Lettuce seed in the world is grown here. For this reason, foreign importations of Lettuce seed have nearly or quite ceased. And yet the business of growing this seed in California, we judge, is in its infancy.

Next to Lettuce seed, the production of Onion seed in California has the greatest prominence. It is largely exported. The best and most famous Onion seed in the United States is now known to be that produced from the Yellow Danvers of California. The demand greatly exceeds the supply. Large quantities have been shipped to Eastern seedsmen during the last three years. There were about 80,000 pounds of this seed grown in this State during the last year—this amount only covering the quantity available for seedsmen. Several seed-growers are now producing their seed in California, because they get a better article.

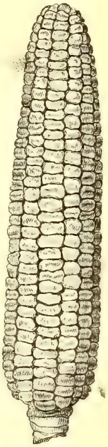
PLANTING WRINKLED PEAS.

A correspondent of the *Rural New Yorker* contradicts the generally assumed supposition that round Peas are hardier than wrinkled ones, and that the latter will rot in the ground if planted early, in proof of which he gives his experience as follows:

"My soil is a heavy, sticky clay, and I planted *American Wonder*—the standard among amateur gardeners—early in April, after a heavy rain. The soil was of the consistency of stiff paste. There has been little or no warm weather since, and any quantity of rain, but the Peas are growing nicely, not one having missed. The *Wonder* is probably hardier than other wrinkled varieties. I have the best results with this Pea when planted about two inches apart, in drills a foot apart. Every five feet, I plant a row of Tomato plants, and when the Peas are off, put in Celery. The Tomatoes are on the crowns between the trenches, and when the soil is wanted for earthing up it is not until the Tomatoes are frozen and deposited in the weed-heap."



TUSCARORA.



TRIUMPH.

The Fruit Garden.

SEASONABLE HINTS.

Renewing Strawberry Beds.— Many amateur gardeners have as great an aversion to turning under an old Strawberry bed as to the cutting down of a bearing fruit tree, and yet it requires often more time and labor to clean and keep in order an old bed than to plant a new one. As a general rule, nothing is gained by keeping a Strawberry bed more than two years, and to secure best results, some young plants should be set out every year. Yet there is a way of renewing Strawberry beds, which, without grating harshly against one's conservative feelings, produces a new plantation every year.

A row of Strawberry plants set out a year or two ago will now, as frequently managed, — that is, left to themselves,— present a solid mass of plants and weeds, six feet or more in width. To weed out and civilize such a wilderness is a task not rashly to be undertaken. If, however, the bed has to be maintained on the same spot, then stretch a line a foot or two from the original row, or where there is the best stand of young plants; and parallel with it, toward the outside, stretch another. Mow down, on both sides, all that stand outside of this narrow strip, spread a good coat of manure, plow or spade it under, and pulverize and mellow the soil as much as possible. Pull all weeds from the strip left, and rake the new ground whenever weeds make their appearance. Runners will soon push forth, and young thrifty plants will take possession of the ground previously occupied by old and worthless ones. If more than one row of plants is desired, such a border may be left on each side of the old one, allowing about four feet of space between the two.

The following year, the plants now remaining will be turned under, moving the rows in the same direction, and thus providing fresh ground every year. If circumstances do not permit, the beds may be kept on the same ground, alternating the lands every year.

We do not recommend this plan to those who aim at best results, nor to those who can give better care to their plants; yet it is far better to raise Strawberries in this rough way than to have none at all. We may instance a mixed bed of Crescents and Charles Downings which supplies a large summer boarding-house with berries. The only cultivation it has received in years consisted in an annual mowing with the mowing-machine, and the plowing of alternate strips three to four feet wide.

Potting Strawberry Plants.— Several readers ask for information about this subject. Plants set this spring or last fall, and which have not been allowed to bear, are best for raising young plants; but any strong, thrifty plants may be made to answer. Work the ground around them deep and mellow, take small flower-pots of two or three inches in diameter, fill with fine, rather heavy soil, sink them in the ground to the rim, directly under a runner just forming a young plant, and place a small stone on the runner to prevent its being blown away. In two to three weeks the plants will be sufficiently rooted for removal.

CRAB APPLES.

When eternal vigilance is the price of an Apple orchard, and Jack Frost the most formidable enemy encountered, the Crab Apple, or, as it is often called in popular parlance, "Siberian Crab," is of no small value. Prefixing "Siberian" to its name is right enough in this, that it indicates its superior ability to withstand excessive cold. When the Apple grower, wearing a most rueful countenance, passes through his orchard in the spring, noting on many trees the tell-tale crevices in the bark, he feels that he has not labored altogether in vain when he comes to his Crab Apple orchard. The past winter was unusually cold here, injuring even Cherry trees, but my Crab Apples escaped unscathed. They are the only ones of my fruit trees that were not injured. The Crab Apple not only withstands cold better, but is hardier in every way than the Apple, and therefore will commend itself to the orchardist living where the circumstances are not favorable to Apples.

Crab Apples are long-lived for two additional reasons: They have few enemies, and great vitality to withstand their attacks. Why it is I do not know, but I have very rarely found caterpillars on my Crab Apples; the Apple-tree borer rarely works upon them; so far as my own experience goes, they never blight; even the locusts are not very fond of them; and when any enemy or disease does attack them, they oppose to it greater vigor than perhaps any other fruit tree.

Though only a Crab Apple it is a fine fruit. It must no more be compared to the common Crab Apple than our best Apples to worthless seedlings, or our finest Grapes to wild ones. The greatest drawback to them is the difficulty of keeping them in their natural state. Some varieties contain so much sweet juice (sugar) that they soon decay. I am in hopes that a later, perhaps less juicy variety will yet be introduced that can be kept through the winter. I know of no fruit which makes nicer preserves or jelly. The jelly is as clear as crystal and only too pleasant to the taste.

The trees are incessant bearers; I have never known them to miss a crop, and a heavy one at that.

If, then, the Crab Apple is vigorous and long-lived, its fruit and bearing qualities excellent, why does it receive so little attention from fruit growers? In answer, it may be said that its worth is not fully recognized and the demand for it does not justify large planting. For this there is also a reason — the general inferior quality of the fruit occasioned by neglect of severe pruning and consequent over-fruiting. As I have before said, the tree is vigorous, and therefore a rapid grower. It is also a great bearer, and each limb will be full of blossoms and fruit. Unless severely pruned the tree attempts to mature too much fruit, and the result is numbers at the expense of quality. My observation convinces me that the pruning of Crab Apples is grievously neglected. Shakespeare may skeptically ask, "What's in a name?" but the answer is not always "Nothing"! though "A rose by any other name would smell as sweet." It is unfortunate for the improved Crab Apple that it cannot rid itself of that name. For the name at once carries the impression of something rough, thorny and inferior; and so strong is this impression that the Crab Apple is often neglected just because its name is its name, and not because the results would not amply repay the attention bestowed. When it receives careful attention, and its fruit is thereby improved in quality, the Crab Apple will take a prominent position among fruits, for it possesses merits fully as good as the Cherry, Grape, or Berries.

Prune one of your Crab Apple trees more severely than you have ever done before, and, my word for it, you will find a surprising change in the quality of the fruit. You need not fear to lop off branches without mercy if you cover the stumps with wax, for the vitality of the tree is so great that all wounds will soon heal, and the evils attendant upon the too severe pruning of Apples need not be feared. A soil and location suited to Apples is also best adapted to Crab Apples. Because it will withstand more cold do not plant the tree on low or undrained land, for the blossoms, though hardy, will succumb to severe frost. He who can raise Apples can raise Crab Apples better; for with the same soil, location, and attention, they will do better. JOHN M. STAHL.

CARE OF YOUNG TREES IN SUMMER.

Young trees set out last spring will need extra good care this summer. The first summer is quite as trying to young trees as the first winter. They must be protected against the hot sun and dry weather. Thorough and constant mulching will do this work for the roots; but sometimes, when the roots have been severely cut away in taking up from the nursery, they do not seem to get sufficient hold during the first few months after transplanting to sustain the top. The dry, searching winds and hot sun are often too much for the weakest, and they succumb under the trying ordeal, even when given ordinarily good treatment.

After losing many young trees in this manner, I adopted the following method for protecting them: Along each side of my rows of young trees I planted two rows of Corn, with the hills twelve or fourteen inches apart. This shades the roots, trunk, and a good share of the top. It also keeps the wind from blowing the mulching away, as is often the case when not so protected. The Cornstalks and foliage break the force of the wind, so that the young stock of the tree is not twisted and wrenched about, to the detriment of its roots. A row of Brush-peas or of Pole-beans will also answer the purpose, especially the Peas, as they can be grown early and made to serve as shelter long before the Corn and Beans are high enough to afford much protection.

Where it is not practicable to give them such protection as above mentioned, the bare trunks may be protected by twisting hay around them from the ground up to the limbs. A little care and watchfulness will save many valuable trees and prevent that ragged, scattered appearance of orchards in which, here and there, a tree has died out.

W. D. BOYNTON.

Raspberry and Blackberry canes, if not already cut back, should be tipped at once at about three feet from the ground. This will produce stout, upright canes, which make staking unnecessary, and facilitates cultivation and other work between them considerably.

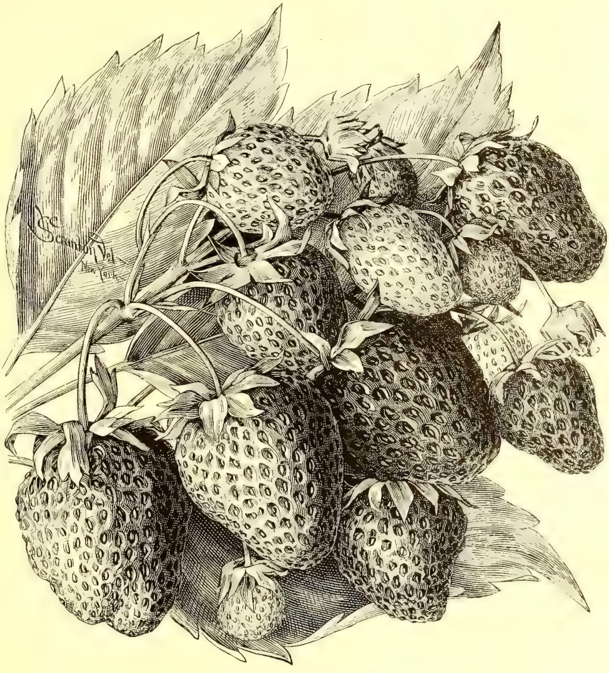
THE ATLANTIC STRAWBERRY.

In the production of new varieties of Strawberries during the past few years, the leading object to be attained has been to increase size as much as possible, with but little regard to quality and firmness; and whatever progress has been made in the latter direction is almost exclusively the result of chance seedlings.

To this latter class belongs the "Atlantic," the original parent of which was found near Hammonton, New Jersey, in a Cranberry bog, far from any cultivated land. Mr. D. L. Potter, the discoverer, removed it to his garden, and finding its qualities very desirable, propagated it for market purposes. As soon as a sufficient quantity of berries were produced they were shipped to New-York, where they at once attracted the attention of dealers, and were eagerly sought in preference to other kinds. Mr. L. S. Davis, the commission merchant, states that they readily sold at from twenty to twenty-five cents a quart, wholesale, when Wilsons of the same grade brought but half this price.

The variety has, we believe, not yet been grown outside of the neighborhood of its origin — a sandy, naturally barren soil. There the plant is extremely vigorous, healthy, and productive; the foliage is large, firm, resembling that of the Sharpless. The flowers are staminate, bisexual — requiring, therefore, no other variety for fructification. The berries are irregular, conical, sometimes flattened, short-necked, bright crimson, slightly glossy, of good medium, remarkably uniform size; flesh red, and solid to the core; quality good, and for a market berry very good, having a rich aroma without decided acidity. The calyx is large and bright green, adding considerably to the attractive appearance of the berry in market. The fruit stalks are strong and upright, the peduncles very long, two inches and more, facilitating the picking materially.

The greatest value of this variety, however, consists in its extraordinary firmness and excellent shipping quality. A plate of berries exhibited at the New-York Horticultural Exhibition was in perfect condition three days after being picked, improving in quality rather than deteriorating. Its season is medium to late, ripening its main crop a week after Wilson. From what we have seen of this new variety in the market, as well as on the original plantation, we consider it a valuable shipping berry for all growers who cultivate a light, sandy soil, and also well worth a trial on soils of heavier consistency.



THE ATLANTIC STRAWBERRY.

STRAWBERRY NOTES FROM NEW JERSEY.

In this State the Strawberry crop is of great importance, and all new varieties are tested with a great deal of care. The season of 1883 was backward, frost occurring unusually late; May and June very dry, having the least rain-fall in this period for the last twenty years. These conditions had naturally a detrimental effect on all crops, and especially upon Strawberries.

Manchester did nobly; flavor above medium; prolific, with good culture of large size. In some sections plants blighted somewhat. It undoubtedly ranks among the first of the new varieties.

Bidwell does not hold its own, as it sets more fruit than can mature, and ripens imperfectly.

Piper Seedling is a good, strong grower, of good size, soft, too dark in color for market.

Vineland Seedling, a good, vigorous plant. Around Vineland the fruit resembles the Kentucky, but is more prolific, darker in color, and a better carrier. Although promising, longer trial is needed to fully determine its merits.

Big Bob.—Fruited but little this year; plant apparently a poor grower; flavor very acid; small in size.

Sharpless.—One of the best marked berries, and gives good satisfaction, both in the market and garden.

Great American.—Very little cultivated. When it succeeds it is a fine berry. It requires the richest of ground, heavy clay soil, and little stirring while growing.

Jersey Queen.—With good culture in suitable soil gives a large sized berry. In sandy soil, very poor.

James Vick. — This year's test is hardly sufficient to determine its merits; plant, a medium grower. The indications are that fruit will be not above medium size.

Mount Vernon. — Variable as to growth. When it succeeds, it is good; a fine grower, of large size and good flavor.

Longfellow.—Good grower, fine color, imposing in appearance, soft, sports considerably.

Fairy.—Unproductive; poor grower; color light pink, fading into white; flavor good.

Satin Gloss does poorly.

Hart's Minnesota is a fine amateur berry.

NEW VARIETIES.

Atlantic. — Originated at Hammonton, New Jersey; plant, a good grower; shape of fruit similar to Bidwell; size medium, flavor good, rather sweet, productive where grown; apparently good for shipping.

Prince of Berries.—Renamed the present season by Mr. Durand, formerly known as Durand's Superb. Will be disseminated this fall for the first. On the grounds of the originator it is healthy, a strong grower, prolific; size, medium, shape flattened ovate, necked, flavor very best. Worthy of trial for those who appreciate fine flavor.

Legal Tender.— Originated by Mr. O. Felton, Merchantsville, New Jersey. Have not seen the plant growing. The fruit is medium to large in size, of good color, red flesh, and good flavor.

J. B. Rogers.

IMPROVEMENT IN FRUITS.

The acquisition of every valuable new fruit suggests the contemplation of the vast field for improvement which lies before every intelligent fruit grower, and which amid the cares and anxieties of our daily avocations is so generally neglected. A chance seed placed in the ground, says *Mr. W. C. Barry*, may yield a product the value of which it is impossible to foretell. If we utilize the knowledge and skill in our possession, and, by artificial fertilization, produce a seed the results of which can be anticipated with considerable accuracy, what a treasure have we not gained! Not alone is abundant pecuniary reward in store for us, but a never-failing pleasure, such as will result from the study of the innumerable forms and varieties which can be obtained from judicious cross-fertilization. We are trying hard in various ways to progress. Let us not overlook this art, but make intelligent use of the means at our command. Then our progress will be rapid and commensurate with the times in which we live. The art of hybridization, although it has barely outgrown its infancy, has achieved magnificent results.

The Flower Garden.

HEART'S-EASE.

While o'er my life still hung the morning star,
Dreamy and soft in tender-lighted skies,
While care and sorrow held themselves afar,
And no sad mist of tears had dimm'd my eyes,
I saw Love's Roses blowing,
With scent and color glowing,
And so I wished for them with longing sighs.

The brightest hung so high, and held aloft
Their crimson faces, passionately bright;
The gay, rich golden ones escaped me oft,
And hedged with sharpest thorns the lofty white;
From all my eager pleading
They turned away, unheeding;
Among Love's Roses none were mine of right.

Yet, of sweet things, those Roses seemed most sweet
And most desirable, until a voice,
Soft as sad music, said, "Lo! at thy feet
A little flower shall make thy heart rejoice."
And so, the voice obeying,
I saw in beauty straying
A wealth of Heart's-ease, waiting for my choice.

Great purple Pansies, each with snowy heart,
And golden ones, with eyes of deepest blue;
Some "freaked with jet," some pure white ones apart,
But all so sweet and fresh with morning dew
I could not bear to lose them,
I could not help but choose them,
For sweet Content sat singing where they grew.

So, now, Love's Roses shake their scented leaves,
But tempt me not to their enchanted quest;
I gather Heart's-ease set in dewy leaves
And am content—for me it is the best.
Be glad if, sweet and glowing,
You find Love's Roses blowing—
I sing through life with Heart's-ease at my breast.

—*Christian Union.*

SEASONABLE HINTS.

Pansies.—My Pansies have bloomed splendidly all spring, but now they dwindle down and fade; what can I do to save them? is a question asked almost daily.

By cutting the tops off and shading the plants during the hottest part of the day, they will, with proper care, bloom again during autumn, and if special choice strains are to be preserved, they may be propagated by cuttings; but for general purposes this plan is hardly worth the trouble. The best and only sure way to secure a good show of Pansies every year is to raise them from seed every year, like annuals. It is contrary to the laws of nature for a plant to bloom perpetually, as much so as it is for a hen to lay eggs every day the year round.

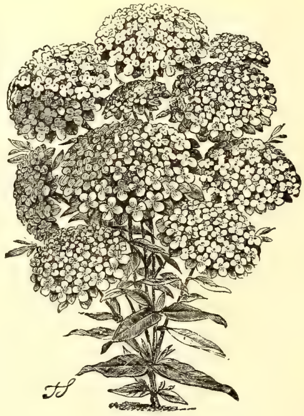
If flowers are desired very early in spring, the seed should be sown during this month, and, for a succession, additional sowings should follow in August and September. The soil should be deep, mellow, rather sandy and moderately rich; if of excessive fertility, a luxurious growth of foliage, detrimental to the production of best flowers, will generally be the result. A partly shaded situation, sheltered from the midday sun, is most desirable. Pansies require free circulation of air and will not thrive under the drip of trees, nor in bright sunshine. A border on the north side of a building where they can be protected in winter is most suitable.

TWO MODEST FLOWERS.

CANDYTUFT.

There are always some persons in every neighborhood who seem to make but little bustle, and we are quite likely to undervalue them because they are too modest to have anything to say about their own merits. But when they are gone we miss them, and find out how much regard we had for them without knowing it. The Candytuft is like such persons. It is of use in many ways in the garden, but is too modest to be self-asserting, as many less meritorious flowers are. The principal colors are purple and white. The white is much used in making bouquets. Both are valuable for borders. It is extremely hardy, and can be sown at any time. It begins to bloom early in the season, when the plants are small, and it continues to flower until frost.

It is one of those plants which will do well under almost any circumstances, but the better chance you give it, the better satisfied you will be with it. It is such a sturdy little plant that most persons seem to have the idea that it does not require any care, but can take care of itself. This it will do, to a certain extent, but if you keep the weeds down among it, see that the soil is mellow, and remove seed-pods occasionally, you will be well repaid for all your labor. Some varieties bear their flowers in flat or slightly rounded clusters, others in pyramidal form, while the white variety, called Rocket, grows in long spikes. By a judicious pinching-in the plants can be kept compact, and the effect will be much finer than if the branches are let straggle at their own will, though it is not a plant that annoys one very much in this respect.



NEW CARMINE CANDYTUFT.

SWEET ALYSSUM.

A lady said to me, last year: "I select a good many of my flowers as I do pieces of music from a publisher's catalogue, by the name. If it pleases me, I send for it. Sometimes I get something good, and sometimes not. Last summer I sent for a package of Sweet Alyssum seed, simply because the name pleased me. I got a treasure. The plant is just what I have been wanting this long time. Not showy at all, but lovable, because of its charming and modest air."

She described the merits of the Sweet Alyssum very well. It is not the plant persons who care only for color-effects would like, but for those who are fond of quiet and unobtrusive beauty it is a plant I can unhesitatingly recommend. Its flowers are small and white, borne in clusters. It has a delightful fragrance. It is very useful in bouquet-work.

It is also excellent for use in the house during the winter. It will stand the air of our dwellings better than most plants, and bloom nearly all the time. It is as desirable as a basket-plant as the Oxalis is, and the two can be grown together with good effect, the pink of one contrasting charmingly with the white of the other. It is a good plan to give the plant a thorough sprinkling, when grown in the house, at least once a week, to prevent the red spider from getting a lodgment on it. It is very useful in the garden as a border-plant. I saw some beds of pink Geraniums, last year, with this for a border, and the effect was fine; also, some ribbon-beds in which Sweet Alyssum was used with Ageratum and rose-colored Phlox Drummondii, and I admired them greatly.

E. E. REXFORD.

STARTING DELICATE SEEDS.

A correspondent of the *Country Gentleman* gives the following as the best plan for germinating small and delicate seeds he has yet tried: "Fill a common flower-pot with fine loam and scatter the seeds over the surface, which should be first finely pulverized, and by jarring the pot settle the seeds well among the particles of soil. Do not press or pack the surface or any other part of the soil, but settle moderately by jarring the pot. Set the pot in shallow water, in a warm, sunny window or planthouse, and keep sufficient water at the base of the pot to keep the surface of the soil wet.

"Treated thus, nearly, if not quite all, good seeds will grow, even those that remain in full view on the surface. No glass need be laid on the top of the pot to prevent drying of the surface of the soil; for, by capillary attraction the surface will be kept sufficiently wet, if enough water is kept at the base of the pot. No care need be exercised to prevent baking of the soil or washing out of the seeds, as when water is applied directly to the surface."

COLORS IN THE FLOWER GARDEN.

Discords which should be avoided, says the *London Garden*, are: red-green, yellow-purple, orange-blue, brick-red-blue, orange-olive, purple-citrine, green-russet. These last three are beautiful as Nature uses them, with the two tints shading into each other; they are objectionable only as patches of flat color placed together. Scarlet and blue are passable, but not good. Red and yellow should never be placed together, but may shade into each other. Red, blue, and yellow are bad, also orange, green, and purple; green and purple are passable. In the discords of two colors, the two colors act as foils to each other; thus, although orange and blue discord, to look at blue is a good preparation for seeing orange, and *vice versâ;* so that in arrangements which cannot be seen together, but will be seen in succession, these colors should follow each other.

NASTURTIUMS.

These popular annuals are all natives of South America, but the common species have been inhabitants of our gardens for nearly three hundred years.

The common large Nasturtium (*Tropæolum majus)* and its varieties may be sown in the garden in May, where it is to bloom through the summer, and requires no special care. It is a showy plant everywhere — in rich ground covering the surface with foliage and flowers, and in poor soil, while making a less rampant growth, blooming even more freely. It is also very serviceable for covering trellis-work, rocks, fences, or stumps, and is one of the bright flowers to which the sea air gives additional brilliancy. The brightest Nasturtiums we ever saw were planted where, in a storm, the spray almost dashed over them. The colors are dark, velvety crimson, orange, scarlet, straw-colored, and spotted. There is a double orange-colored variety, which is a greenhouse plant, and is increased by cutting, and used for summer-bedding; but it is of little value.

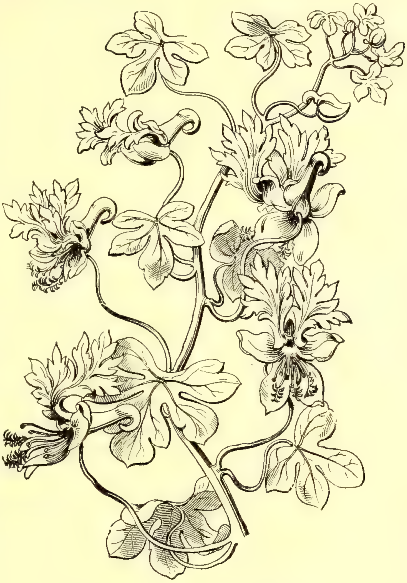
The dwarf Nasturtiums *(T. minus)* are among the most useful bedding plants. Many of the varieties form close, compact clumps, which all summer are bright with flowers. They are of all shades of scarlet, yellow, orange, rosy, almost white, and nearly black. They bloom more freely in poor soil, if the earth is too rich, they run too much to foliage, and it is always well to cut out the larger leaves that the flowers may show better. The mode of culture is to plant them where they are to stand; *Tropæolums* do not bear transplanting well.

There is a class of tall climbing species which are among the best of annual climbers. A well-known example is the Canary-bird flower *(T. peregrinum* or *aduncum)*, so called from its bird-like, bright yellow blossoms. It is a hardy annual, which should be planted in not over-rich soil, in May, and trained upon a trellis, or allowed to ramble over bushes. It begins to bloom in July, and continues until killed by the frost, producing a profusion of delicately cut foliage and bright flowers. It is very effective planted at the foot of woody climbers, such as Honeysuckles and Wistarias, the beauty of which is in a great measure past before July. The light-green leaves and yellow flowers contrast well with the dark leaves, and make the trellis bright all summer.

Another tall climbing species is *T. Lobbianum* and its many varieties. The species has small, bright, orange-scarlet flowers, is a most profuse bloomer, and is quite as good as any of the varieties, although the latter give a great range of color,—crimson, yellow, orange, scarlet, and almost black. They are admirable plants for the greenhouse, make a great show trained on the rafters or up the pillars, and are perpetual bloomers. At first they may be raised from seed, and then are easily propagated from cuttings, which root readily in sand. They are useful as cut flowers, as they preserve their beauty long in water.

Planted out in the garden, they are apt to run to leaves, but for rock-work or situations where the soil is rather dry and poor, they are admirably adapted, and make a brilliant effect.

The varieties of *T. minus* and *majus* may readily be distinguished by their leaves; in the former the nerves of the leaves end in a point, which is never the case with that of the latter. R. S. E.

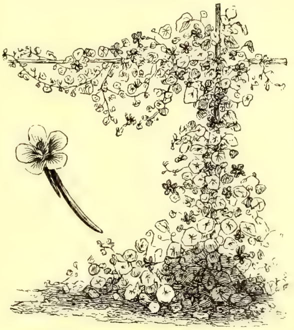


TROPÆOLUM PEREGRINUM

CARNATIONS FOR WINTER BLOOMING.

Plants propagated by cuttings during the previous winter are best suited for blooming from the following December to May. The plants should have been bedded out in early spring in an airy situation, and shaded for a few days after planting.

When about six inches high they should be pruned to not less than half their size, so as to produce side shoots and an abundance of buds. They have to be kept moderately moist, and, unless the ground is very rich, be watered from time to time with liquid manure.



TROPÆOLUM LOBBIANUM.

About the middle of September they are taken up, potted in six-inch pots, and placed on slight bottom heat in a pit or house. For about a week, the sashes should be kept closed and shaded if necessary, after which time air is given gradually when the outside temperature permits. During winter, a temperature of forty degrees is sufficient, and preferable to more heat. Of course, plants intended for this purpose must have a good number of flower-buds when taken up from the ground. When proper care has been given, sixty to eighty buds will sometimes be found on a single plant.

When the buds begin to expand, the plants may be removed for in-door decoration, placing them as near as possible to the light and as far as possible from the fire.

Plants with but few buds should, before frost sets in, be lifted with a good ball of earth and put close together in a pit. They should remain uncovered as long as possible, and during winter protected enough only to keep them from freezing, giving air on all mild days. These plants will become suitable for potting in March or April.

It is useless to attempt the forcing of poor plants. They will grow straggling, lose their leaves, and bloom unsatisfactorily. JEAN SISLEY.

Montplaisir, Lyons, France.

LILIUM AURATUM.

Unsuitable soil and imperfect drainage are frequent causes of failure with Lilies; but more bulbs are lost, probably, by too shallow planting than from any other cause, and the following remarks on this subject by Mr. W. E. Endicott, before the Massachusetts Horticultural Society, confirm this position.

"The showiest of Lilies is unquestionably the *auratum*. It is not suited to pot culture, and the size of its flowers makes it look out of place when so grown. A clump of it in bloom is a fine sight in a garden. It is well known to possess a delicacy of constitution, owing to which the bulbs, after flowering pretty well for a year or two, dwindle and die. Great numbers, planted in all soils and positions, have gone the same way, except a lot of six planted ten years ago in ordinary garden soil. All but two are in good condition; one of these had the shoot knocked off by a careless person, and the bulb of the other was pierced by the underground shoot of a plant of *Arundo Donax*. This imperfect success is ascribed to the fact that the bulbs were originally planted twelve or fifteen inches below the surface of the soil, and leads to the conclusion that all Lilies should be planted deep rather than shallow. To get a sound, strong stock of *Lilium auratum*, they should be raised from seed here. This has been found true in England, where such sell for from one-quarter to one-half more than imported bulbs. It is beneficial to this and other species to provide at least a partial shelter for the lower half of the stem. A remarkable point about the *I. auratum* is the variability in the time of flowering, which ranges from June to September, and, stranger still, the plant which flowers early one year will bloom later the next. They also vary greatly in size as well as in the tints of their flowers."

Lawn and Landscape.

HARDY FLOWERS FOR THE LAWN AND BORDER.

At this writing, the middle of June, our fields and woods and gardens are bright and fresh and gay, for we have had a late spring, but a warm, moist June, and vegetation appears in its cleanest and freshest garb. Our Lilacs and most of our Spiræas have done blooming, and we are in the hey-day of Mock Oranges, or Syringas as we usually call them, and the Roses are opening in profusion. Our lawns have been mown two or three times, our walks trimmed, and our flower-beds filled. The expanse of green is relieved by the Mock Oranges, Deutzias, Yellow Wood, Rose Acacias, Locust, Snowballs, Diervillas and Rhododendrons. Lilies and Pæonias brighten our borders; and an array of tender plants, as Geraniums, Coleuses, and the like, furnishes our beds.

But what about the host of hardy flowers that every farmer in the land might have, and which will live along from year to year, wax greater in their strength as time rolls on, and blossom every season, and that, too, with as little care and labor as his potato or cotton crop needs? You need not look for them in our public parks and pretentious gardens, but rather seek them in old country yards and small suburban lots. I know that many a farmer's wife would sooner have a lot of hardy perennials than a bed of Coleuses; but what sorts should she get, and how to treat them, is what concerns her.

Come with me into the garden, and I will tell you about the gayest with me now, such strong growing plants that any one can grow, and I will avoid speaking of the hundred and one other hardy plants that are also in blossom with us now, but which, for some reason or other, might give you trouble in cultivating them:

There is the double-flowering *Spiræa filipendula*, with fern-like leaves and showy, pure white, fleecy blossoms; *Hoteia Japonica*, white, and which florists force as they do Lily of the Valley for winter flowers; the Columbine-leaved Meadow Rue, with pure white flowers on a stem three to four feet high; blue-flowered Speedwells on long upright spikes; Columbines in great variety, especially hybrids of the Rocky Mountain blue one and the Californian red one; the golden Columbine is also opening; while the white and blue and purple Clematises decorate our trellises, the Erect Clematises are covered with massive bunches of white blossoms; pale and deep yellow forms of Day Lilies are blooming alike in open, shady, and neglected places; and the Spiderworts, *Tradescantia*, red, white, and blue, are full of blossoms. *Pentstemon ovatus* has many spikes of blue; and some varieties of Iris, as *tenax* and *sambucina*, are at their best. The majority of German and Siberian, and other Irises, have done blooming, but none of Kæmpfer's Irises have opened yet. A host of Bell-flowers, or *Campanulas*, are at their best; for instance, *glomerata*, *punctata*, *persicifolia*, and *macrantha*, white and blue. Sweet Williams are in their prime; a double red one is the richest looking of the lot. Paisley Pinks are opening, and a host of the hardy perennial single-flowered Pinks are in bloom. The double-flowered Ragged Robins are showy, and the double pink-red *Lychnis Viscaria* is exceedingly bright in the border. *Asperula tinctoria*, like Woodruff, forms clumps of small, white, airy flowers, so useful as a fringe in bouquet work. *Valeriana alliariæfolia* is a bold plant, with many heads of white blossoms, and many Lilies from the tiny scarlet *tenuifolium* from Siberia to the glowing umbels of Thunberg's Lilies from Japan. The small *Achillea tomentosa* is a sheet of brightest yellow, and the Thrift displays many shades of rose-colored flowers. *Orobus niger*, one of the Vetches, is loaded with dark reddish pea-flowers in clusters; the heat is sending past the double white Rocket, which is a beauty; it is so full, so white, and so fragrant—indeed, it much resembles a double white Gillyflower. Single and double, red, pink, and white Pyrethrums are at their best; somber bunches of white and purple Fraxinellas, clumps of blue and white Baptisias, the yellow Carolinian Thermopsis, massive white clumps of Goat's-beard, red and white Yarrow, purple, white, and rose-colored perennial Salvias, and the Bowman's Root, with its airy white flowers, are all in their prime, and, together with several other perennials, shrubs, and annuals, render the beds and borders gay enough.

Many of these, as the Columbines, Sweet Williams, Campanulas, Pinks, Day Lilies, and Thermopsis, are readily obtained from seeds, which you can order from any respectable seed-house. Sow the seeds as soon as you get them, transplant and otherwise care for them as you would seedlings generally. Double flowering plants, as the Rockets, Pyrethrums, and Lychnis, are increased by division of the old plants, and so, too, are distinct colored sorts—for instance, of the Spiderworts and Irises.

Beyond keeping the ground clean an cultivated, lifting, dividing, and transplanting afresh the clumps every year or two, and otherwise treating them liberally, they require no special care. I have used several botanical names in preference to English ones, because there is no mistaking a plant by its botanical name. Whereas, I should have to manufacture an English name, or use one not generally recognized, and that would lead to confusion. But you will get a description of the plants I refer to in any catalogue or book relating to hardy perennial plants. WM. FALCONER.

FLOWERING PLANTS FOR SHADY PLACES.

Among the choice native plants delighting in a cool shady spot, moist if possible, is the genus *Cypripedium*, and the most showy species are *C. spectabile*, with large, showy rose-colored flowers; *C. pubescens*, the larger yellow Lady's-slipper; *C. parviflorum*, smaller yellow Lady's-slipper, and *C. acaule*, stemless, with pale rosy bloom. The Rattlesnake Plantain, *Goodyera pubescens*, frequenting cool northern slopes, is well adapted for cultivation in shady spots. The showy Orchis, *O. spectabilis*, transplants readily and is very conspicuous when in bloom. Several of the genus *Platanthera* are also valuable, requiring but little attention. All the above must have a nicely prepared bed of peat to grow in, else their fleshy roots will decay after the first season. Ferns—and there are many of them—are always in order in just such a locality, and harmonize well with other plants, especially if placed on a little mass of rocks.

Clumps of the well-known early white Anemone, *A. nemorosa*, transplant easily and are very satisfactory in a cultivated state. Thes ame might be said of all the Violets—the Blood Root, *Sanguinaria Canadensis;* dwarf Dogwood, *Cornus Canadensis;* Trailing Arbutus, *Epigæa repens*, although difficult to transplant, but especially desirable when it thrives properly; Liver-leaf, *Hepatica triloba;* the delicate little vine called Twin-flower, *Linnæa borealis;* another small trailing plant known as the Partridge Berry, *Mitchella repens;* all the species of *Trillium* and dog's tooth Violets, *Erythronium Americanum*. All the foregoing are natives, and are usually quite plentiful and widely distributed. The Lily of the Valley loves a shady nook, and the evergreen trailing vine, Periwinkle, is partial to the same spot. Double English Daisies and Primroses are the better for a partial shade, and a clump of Fuchsias will grow and bloom freely with little sun.—*Josiah Hoopes, in New-York Tribune.*

VINES ON HOUSES.

It is generally supposed that vines make houses damp, for which reason there are not nearly as many cottages and houses beautified with vines as there should be. It is only when the climbers are allowed to cover the eaves and obstruct the gutters, or find their way under the shingles that they become objectionable, and these conditions should, of course, be carefully guarded against. The *Gardener's Monthly's* remarks in this respect are well taken: "Vines should always be kept cut down below the roof. It is a little trouble to do this once a year, but we cannot get even our shoes blackened without some trouble. Those who know how beautiful and how cozy looks a vine-covered cottage will not object to the few hours' labor it requires to keep vines from stopping up the gutter. Vines really make a wall dry. The millions of rootlets by which they adhere to the wall absorb water, and an examination will prove a vine-covered wall to be as 'dry as an old bone.' One great advantage of a vine-covered cottage, not often thought of, is that it is cooler in summer and warmer in winter than when there is but a mere naked wall."

EVERGREENS FOR SMALL LAWNS.

The Cembrian Pine is one of the most beautiful Evergreens, and is of very slow growth during the first fifteen years, and is well adapted to places of moderate size. Of smaller trees, the Siberian and the Pyramidal Arbor Vitæ, as well as the Swedish and Irish Junipers, are desirable. The Pyramidal Arbor Vitæ and the Irish Juniper should be planted as single specimens, or grouped with trees of broader form. Of very small trees, the Parson's compacta and pumilla Arbor Vitæs, the *Suecica nana* and the *Retinospora plumosa aurea* are all desirable.

NEW LAWNS.

To keep lawns free from weeds, special care has to be given during the first year, as many weeds grow so rapidly that they crowd out the grass. Plantain, Dandelion, and other perennial weeds are not yet deeply rooted during the first year, and may be easily pulled out, while in later years it becomes almost impossible to eradicate them entirely.

The Window Garden
AND GREENHOUSE.

HOME-MADE HANGING BASKETS.

Plants to thrive in wire baskets, and appear healthy and natural require frequent and careful attention, else they will soon produce anything but a pleasing and graceful effect. More compact receptacles retain moisture longer and are preferable in this respect. The principal objection against their more frequent use is their heavy appearance, yet an inventive mind will create readily and with little or no expense a great variety of designs and useful appliances out of the commonest and otherwise useless material.

In the accompanying illustrations, designed and described for the *Young Scientist* by *Mr. A. W. Roberts*, are given many useful hints which will enable any one to make very pretty hanging baskets without expense.

Fig. 1 is a nine-inch flower pot, bored full of holes about a quarter of an inch in diameter, as shown in the diagram, Fig. 2. After the holes were bored, the pot was given a coat of dark green paint, which was then dusted over with fine brown sand—washed clean and dried—mixed with white frosting or pounded white glass, to give it a granite-like glistening and subdue the too painty look it might otherwise have. In the bottom of the pot, over the drain hole, was placed a large piece of sponge, for the purpose of retaining a liberal supply of moisture, so necessary to the health of basket plants. Swamp moss will answer the purpose nearly as well. Over and around the sponge the pot was filled in with a layer of rich soil, reaching to the first circle of holes. In these were inserted slips of Zebra plant, *Tradescantia zebrina* and *T. aquatica*, also Moneywort, *Lysimachia nummularia*, covered with earth and well pressed down. More soil was added up to the next tier of holes, and so on till the pot was filled to the rim.

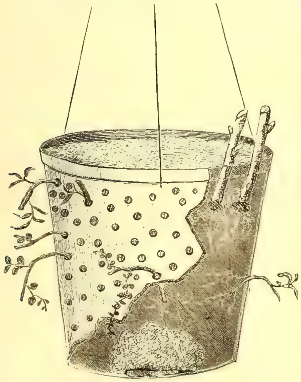


Fig. 2.

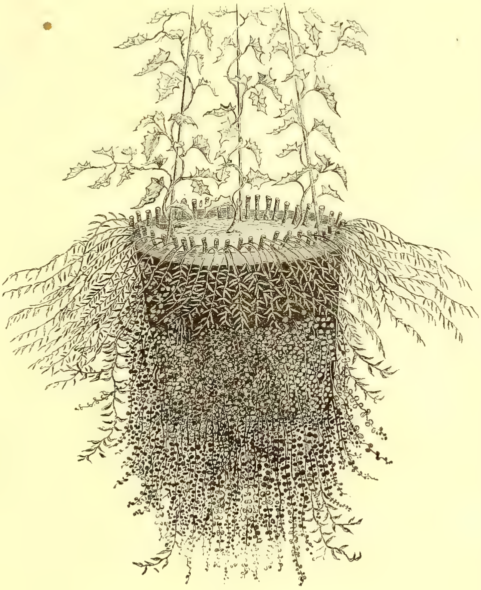


Fig. 1.

Next a row of Willow slips were planted around the inside of the rim of the pot, each slip having four buds, two below the surface for rooting and two above for starting young shoots. When both of the latter started, the one facing the inside of the pot was pinched off. These slips, in course of time produced long drooping sprays over the top of the pot, giving it a very graceful appearance. In the center of the pot was planted German Ivy and trained up the wires. Some of the slips of Moneywort grew down from the pot a yard in length, and were looped and festooned to the drooping Willows.

In Fig. 3 is shown an old fruit can, to which, after label and paste had been removed by soaking in water, two coats of asphalt varnish were applied. Around the can were worked designs with stove cinders, and clinkers from a boiler furnace, selecting those of picturesque form, bright color and light weight. These were first washed and then dried in an oven, and then fastened to the can with hard asphalt cement. The cinders were then touched up with very brilliant colors in distemper, and the high reliefs with gold and silver bronzes. In some places where large fields of black varnish produced a somber effect, this was broken with splashings of small pieces of highly colored cinders. Over all was applied a thin coat of furniture varnish, and through the bottom of the can—from the inside, of course—a hole was punched for drainage.

The richness of effect in color, texture, form, and lightness of material produced in the combination of such castaway rubbish often far exceeds that of costly articles offered for this purpose in the most stylish establishments.

Rough pieces of wood and bark of trees furnish also excellent material for hanging baskets, and admit of endless variety of designs.

IMANTOPHYLLUM.

These beautiful Cape bulbs, nearly allied to *Clivia*, belong to the order of *Amaryllidaceæ*, and are among the most desirable plants for room ornamentation. Yet they are rarely seen in collections of amateurs, among many of whom the idea is prevalent that they are shy bloomers. From my own experience and that of a few friends, I can testify that such is not the case.

The leaves are thick, leathery and dark green, are self-supporting and of an evergreen nature, not easily injured or broken. The bulb is small as compared to the leaf-growth, but it has an abundance of long, white fleshy roots, requiring ample pot room. *Imantophyllum miniatum*, the only species, is a winter bloomer, yet if left undisturbed for several years, and as it increases is slipped into larger vessels, I have known it to bloom at all seasons; but it soon becomes too large for ordinary window culture. In such large clumps it is only suitable for the greenhouse or conservatory. In a ten-inch pot I have had two bloom stalks about midwinter with from twelve to fifteen "Golden Lilies" as large as the *Amaryllis vittata*. The flowers are erect and open in succession.

Turfy loam, well rotted manure mixed with charcoal, makes a good soil, which, on account of the large roots of the plant, need not be very fine. The roots are inclined to work up about the top of the pot, which is no sign, however, that it needs repotting. Give liquid manure from the bottom of the crock at its budding and blooming seasons about once a week. The plant does not increase rapidly; therefore, if fed sufficiently, will not require frequent repotting. It is propagated by division of the roots, and requires rest in midsummer by partially withholding water; in fact, it may be left without water for weeks without serious detriment.

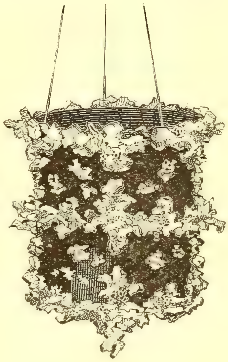


Fig. 3.

A special merit of these plants is that their flowers last a very long time before fading, if not kept in too high a temperature.

AMATEUR.

Foreign Gardening.

TROPICAL FRUITS.

ABRICO.

The *"Abrico"* or Apricot of South America is the fruit of various trees. That of *Labatia macrocarpa* is a large, yellow, fleshy fruit, in consistency resembling a hard Melon, sweet, but without flavor. *Mammea Americana*, called *"Abrico des Antilhas,"* is a large yellow fruit, of which the pulp near the seeds and the rind is bitter, but the intermediate part is sweet and juicy. It is, however, far better as a sweetmeat than raw. The fruit of *Minusops Valota* is small, but very sweet and delicious. Thus we have three trees wholly unlike in fruit, known by the name of *"Abrico,"* and all totally unlike the Apricot of temperate climates. And from this it is easy to see, as this is by no means an exceptional case, how liable travelers are to make mistakes in describing what appears by its name to be the same fruit.

NUTS.

We have said in a former paper that no nuts except those therein mentioned were found in Brazil. We should have added the so-called "Almond" to our list. It is the fruit of *Terminalia Catappa*, a beautiful tree with large shining foliage; the flowers are in small spikes, greenish and inconspicuous, and the nut has a general resemblance to an Almond, but is without its flavor.

COPUASSU.

The "Copuassu" of the Amazon valley is a tree of medium size, much resembling the Cocoa in foliage. The flowers are small, purple, and are produced on the branches and not, as in the Cocoa, on the trunk. The fruit is a large roundish or oblong body with a hard woody shell, covered with a dark russet substance, which can be easily rubbed off. Inside, the large flat brown seeds are enveloped in a light yellow acid pulp of peculiar and agreeable smell. A ripe "Copuassu" will scent a whole room deliciously. This fruit makes a very nice sweetmeat, and is also used for sherbets, but its chief use is as a drink, to make which the pulp is rubbed from the seeds in water, stirred and sweetened. Except the "wine of cocoa," this is the most delicious of drinks, and one can take an indefinite amount, as it is very wholesome.

SAPODILLAS.

Formerly of the same and now of allied families are the "Sapodilla," *(Sapota Achras)* and the "Abio" *(Lucuma Caimito)*. The former is a large tree with russet-colored fruit, having a very sweet, white pulp which incloses large black seeds. The latter is round, with rich, smooth, yellow skin, resembling in appearance a large Nectarine. In sweetness and appearance of the seed, it resembles the Sapodilla but is of richer flavor; both, however, are very nice, and are among the best of tropical fruits.

Thus have we briefly given a description of the many fruits which in Brazil have come to our notice. Many are good, some delicious; but do not envy us their possession, O reader, for we have nothing to compare with the Peaches and Pears of your gardens.

E. S. RAND, JR.

A FRENCH HORTICULTURAL EXHIBITION.

The grand Horticultural Exhibition of Paris opened here this morning at 10 o'clock; and as the clear sky and bright sun foreboded a hot day, I availed myself of the privilege, kindly accorded to me by the gentlemen of the jury, to visit the grounds at an earlier hour, and thus be able to examine the exhibits at my leisure. The grounds on the Champs Elysee are beautifully situated; no finer and more appropriate place could have been selected in all Paris for the grouping and general display of the many beautiful specimens of plants concentrated here. Large canvas tents, erected for the purpose, afford shade and shelter to the various collections of plants on exhibition.

The largest is devoted to the queen of flowers, the *Rose*, all grown in pots, and tastefully grouped as to height, size, and color. The tent contained some ten thousand specimens, all in full bloom, fresh and sparkling. The finest and most attractive in the collection were *Abel Carriere, Duc Decazes, Jean Lambert, Firebrand, Docteur, Andry, Paul Jamain,* and *Souvenir de Spa.*

Next to the Roses, the *Chinese Azaleas* attracted the most marked attention. The display is really magnificent, and the canvas covers some five thousand finely grown specimens tastefully grouped. The most beautiful among them are *Pluto, Flambeau, Alexis Dalliere, Neptune, Superba, Louis Napoleon, Maria Planchon* and *Imbricata*, the latter a new and most beautiful variety.

Among the large collection of *Rhododendrons* the most showy varieties were *Stella, Michael Waterer, Telopidas, Titian, Iago, Semis, Old Port, Corito, Ch. Wagner,* and *Frederic Waterer*, all superb and large specimens in full bloom.

A canvas-covered tent, of three hundred feet in length, protected and shaded one of the grandest and most imposing collections of tropical plants I ever beheld. Among the *Palms* I noticed noble specimens of *Lantania rubra, L. borbonica, Calamus dealbatus, Chamaerops Hartwegii, Thrinax argentea, Livistonia altissima,* and others; of *Orchids*, choice specimens of *Angræcum sesquipedale, Ansellia Africana, Aprophyllum giganteum, Cattleya superba, C. Dowiana, C. Loddigesii, C. Mendelli, Cypripedium insigne Maulei, Dendrobium speciosum, Miltonia Regnelli, Odontoglossum Krameri, Oncidium luridum, Oncidium varicosum Rogersi, Phalaenopsis Schilleriana, Stanhopea insignis, Vanda tricolor formosa;* of *Crotons*, well grown specimens of *Goldiana, Lady Zetland, Prince of Wales, Warreni, Stewarti,* and older sorts. Fine specimens of all the newer *Dracænas, Marantas, Musas, Pandanus, Tillandsias,* and plants remarkable for variegated or ornamental foliage.

Among the *Begonias*, of ornamental foliage, the choicest were *Duchesse de Brabant, Hermine, Leptophylla, Luxurians, Louise Chretien, Madame Champon, Madame Lefevre,* and *Otto Forster.* A circular bed of *Caladiums* attracted general attention, it contained some five hundred specimen plants, the choicest among them were *Albo luteum, Amœnum, Anna de Condeixa, Augusta Carpentier, Ornatum, Sanchoniathum, Salvator Rosa, Mithridate, Verdi, Sirius,* and others.

The display of *Gloxinias* was marvelous; a large bed, oval in form, was devoted to this magnificent genus of tuberous-rooted plants, which in brilliancy of colors is surpassed only, if at all, by the noble Orchids. Some two hundred distinct varieties, all named, kept the lovers of this gorgeous plant spellbound for hours at the time, and elicited the general remark from the knowing ones that no finer collection had ever been on exhibition in any part of the continent or England. Among the choicest, I noticed *Baronne A. de Rothschild, Thalia, Rubis, Progress, Diadem, Duke of Albany, La France, Mme. Charles Heine, Marcel, Papillon, President Lavallee, Sylphide, Pallas, M. G. Morlet, Mlle. Grevy, Emily Telling, Amœna, Beauty of Surrey,* etc. The collection of *Ferns* was very large and choice, but of *Coleus, Pansies, Pelargoniums,* and *Geraniums*, I have seen finer collections exhibited in other parts of Europe. Single specimen plants, in large pots, of the *Chrysanthemum Comtesse de Chambord*, from five to six feet in diameter, grown as standards, and covered with flowers, were much admired by the ladies.

The display of fruit was limited to exotic Grapes and Strawberries, both of which I have seen more extensive and finer in America. Of vegetables, the *Asparagus* on exhibition was wonderful, immense in size, and delicious in quality. Of *Peas*, I noticed some ten varieties, the best and most productive was labeled *"Bliss's American Wonder,"* undoubtedly an American variety. Of *Lettuce*, there were varieties, but none as fine and palatable as can be daily found in the markets of New-York and Boston. The collection of *Potatoes* contained fifty varieties, all raised in frames, and well matured thus early. The two largest and finest looking sorts were the well known American varieties, *Early Rose* and *Snow Flake*, and were much admired by the public.

Innumerable other interesting and beautiful plants and flowers I had time only to notice hurriedly in passing, but if one had days at his disposal, he would find the time all too short for the close examination of all that this enchanting spot contains.

W. R. BERGHOLZ.

PARIS, FRANCE, May 22, 1883.

A GLIMPSE OF BERMUDA GARDENS.

A lady correspondent, who spent the winter in that favored climate, writes thus of its floral charms:

"The beauty of the flowers made me fairly wild. I was just in time for the marvelous Lily bloom, surpassing anything I ever dreamed of. Think of thousands in one garden! One lady told me she threw away hundreds of bulbs every spring. The Roses, too, were perfection; and there were miles and miles of Oleander hedges, from ten to twenty feet high, clad in one mass of color, shading from purest white to vivid crimson. Callas, Lantanas, Geraniums, Sweet Alyssums, etc., etc., grew wild on every wayside.

"The famous Easter Lily of Bermuda seemed to me precisely like our *Lilium longiflorum*, except that in that rare climate it grows and blossoms in wonderful luxuriance. But General Hastings assured me it was not the *longiflorum.* The leaf, I must admit, is less dark and glossy. In a single flower, however, I could see no difference between the two."

All plants grow here with such wonderful vigor and to such perfection, that one can hardly recognize in them old garden acquaintances.

Rural Economy.

EVAPORATING FRUITS AND VEGETABLES.

The process of evaporating fruits should not be confounded with the ordinary method of drying, which calls into play the agency of innumerable hosts of flies, bees, etc., which extract not only the watery, but considerable of the most desirable part of the fruits and vegetables, leaving a substance which would not be palatable, had we witnessed the manner of its preparation.

In any process of evaporation, the great desideratum is the application of intense heat in the first stage of drying, except in the case of Grapes and similar fruits, where extreme heat will burst the skin and allow the juice to flow out,—as the great heat will, by affecting the outer surface of the substance, form an impenetrable external coating, thus retaining the flavor and other desirable qualities of the fruit.

The best arrangement, and, indeed, the only proper one, is to subject the material to a continuous current of hot air. This current cannot be made hot enough to scorch or burn the fruit, if it be kept in brisk motion; but let it become stagnant for a short time, and the product will undoubtedly be ruined by the intense heat.

There are many patterns of evaporators that do good work. The American is especially to be recommended on account of its simplicity. It consists of an inclined wooden flue with the heater placed under the lower end, so that, when the first tray is placed in, the fruit rests directly over the heater; and when, after being thoroughly heated, another is added by simply pushing against the first, the latter is forced up the trunk and the second takes its place. This is repeated with each successive tray, and in this way there need be no larger opening to the external air than about four inches in width. This is a great advantage over evaporators in which the trays are placed one above the other. These work well enough for a tray or two; but when a dozen or more are already in place, and it is desired to put in others, the entire number have to be drawn out and slipped in, one tier higher, to make room for the new one. Thus the entire side of the house becomes exposed, and consequently filled with cold air, which requires to be heated before any progress can be made, causing also unnecessary labor and useless expense of fuel, which can easily be saved.

Raspberries we have found to be very profitable, as three quarts of the fresh fruit yield one pound of the evaporated, and this has a ready sale at thirty-seven cents per pound. So, in case the market prices for fresh berries are down, it is an easy matter to put them in such a shape that we can command better figures.

Corn, properly evaporated, makes a dish fully equal to that just cut from the cob, at a cost of about fifteen cents per pound. Half a pound is sufficient for a family meal.

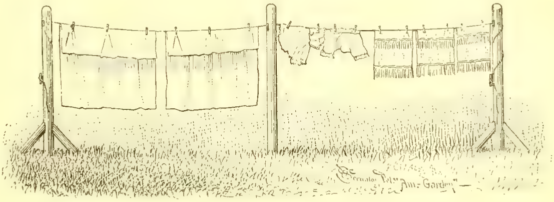
Pumpkins also make a good article, when evaporated,—fully equal to fresh ones for making pies, thus extending the pie season through the entire year.

Many other fruits and vegetables which can readily be dried have not yet taken a place in the market, or are not known in this condition to commerce. Among these are dried Sweet Potatoes, which those who have tried them like very much. When thus preserved, they are safe from frost or other contingency, and, although not in condition for being baked, are excellent for stewing.

Evaporated Peaches and Apples are now extensively shipped to European ports, and are a great factor in our exporting trade. Evaporated Sweet Corn will also before long rank with these as an important article of export, on account of its superiority over the canned article.

Almost any vegetable or fruit can have its surplus water driven off by proper evaporation, and, by again restoring that water when wanted for use, make a highly welcome substitute when the fresh article is not to be had.

JAS. EDGERTON.



CLOTHES-LINES.

Clothes-lines should not infest a garden or a lawn; but they frequently do. Such being the terrible fact, the intruders should be as little disagreeable as the nature of the case will admit. A clothes-line is a necessary abomination. And the clothes-posts are appurtenant to the clothes-lines. The posts, staid and decorous originally, fall into bad habits. In time they lose their dignity, and lean at all angles, even to the very acute. Then the clothes-lines part company with the clothes-props, and hang in such a way as to catch the careless passer under the chin. About that time the recording angel is obliged to call in an extra clerk to make proper entry of the prayers, said backward, of the unlucky victim, and the props, in refusing to do their duty, bring the ends of clean sheets to the ground, and the angel of the household loses her temper thereupon. Moved by a general good-will to the human family, as well as pity for the angel's vexations, I propose to show a mode of preventing this trouble, as well as to dispense with clothes-props.

Get good stout posts, each twelve feet long, and six inches from the upper end have a mortise made, large enough to receive a wooden pulley, which set in its place. On two of the posts that are to be the beginning and end of the line, four feet beneath the pulley, nail cleats. Now, to prevent the posts from sagging, set a cross-piece on the bottom by a mortise and tenon, and from the ends of this to the post nail diagonal braces. Then set this brace end four feet in the ground, and ram the dirt down as if you meant it. Set your other posts between these, at intervals of fifteen feet. Wind one end of your clothes-line, after passing it over the pulley, several times around the cleat. Pass the other end of the line through and over the pulley of the intermediate post, or posts, and then through the end post in like manner, draw tightly, and fasten on the last cleat. Slacken the line to let Biddy hang and pin her clothes; then, when the clothes are on, "haul taut and belay." Observe the pleasing picture.

No patent applied for. The notion is generously thrown open for public use. But the inventor has no objection to the erection to his memory, by grateful women, of a monument made of broken clothes-props.

T. D. E.

[Fully appreciating the humane motives of our esteemed correspondent, we cheerfully second the motion for the erection of a *post*-humous monument to his memory, hoping, however, that the occasion for the event will be many years deferred. Meanwhile, we wish to speak a good word for galvanized wire clothes-lines, which, on properly set posts, last a lifetime.—ED.]

Horticultural Societies.

THE NEW-YORK ROSE AND STRAWBERRY EXHIBITION.

A heavy, beating rain, continuing during the entire night preceding the exhibition of June 19th, made sad havoc among the Rose gardens and Strawberry beds in the vicinity of New-York, so much so that many of the most extensive growers gave up in despair all hope of the possibility of exhibiting anything. Under these adverse circumstances, it was gratifying to see the hall as well filled with plants, flowers, and fruits as it was.

The exhibits of Strawberries, although they showed the effects of the rain, were as a whole creditable. W. L. Ferris, Jr., of Poughkeepsie, carried off, and deservedly, the first prize for the best collection of twenty-five quarts, and E. P. Roe, of Cornwall, the second. The prize for the best fifty berries was awarded to Bernard Fagan, for Sharpless, and a magnificent sight they were, some of the berries measuring nearly three inches in diameter. Jersey Queen, exhibited by P. Henderson, took the prizes for the heaviest ten berries and the best two quarts.

Among the most attractive new varieties were Durand's "Prince of Berries," formerly known as "Superb." This is really a superb berry, resembling somewhat the Jersey Queen in appearance, but is a little smaller, and of decidedly superior flavor. The "Atlantic," a new market berry of great promise, kept better till the close of the exhibition than any other, and was highly spoken of by professional fruit growers. A number of fine-looking seedlings were exhibited by Hallock & Thorpe, E. W. Parsons & Co., Seymour & Downs, and others whose names we could not learn.

On the second day some of the Rose growers revived their courage and filled the spaces allotted to them as well as conditions permitted, so that the Rose tables appeared to good advantage, although, of course, the collections were not nearly as good as we have frequently seen them at the monthly meetings of the society. Yet there were many other choice plants in the hall, which were much admired.

E. D. Sturtevant, of Bordentown, N. J., exhibited a new Water Lily from South Africa—*Nymphæa Zanzibariensis*—with deep royal purple flowers of exquisite fragrance. Several rare and choice Orchids were exhibited by Mrs. Morgan. James Halloway showed a magnificent specimen of *Dasylirion* in flower, with a spike reaching ten feet in the air. A large, well-trained specimen of *Clerodendron Balfourii*, which its exhibitor insisted on dubbing "Cladoradendron Bellborica," was completely covered with flowers, and attracted a large share of attention. The platform was tastefully decorated with Palms and various foliage plants, while miscellaneous collections of Coleus, Geraniums, Abutilons, etc., etc., lent brightness and color to the whole.

NATIONAL CONVENTION OF AMERICAN SEEDSMEN.

This association held its first meeting in this city from the 12th to the 14th of last month. Nearly all the leading seedsmen, or their representatives, were present. So far, little more than the organization has been perfected, officers elected, committees appointed, and plans laid for future action.

When the extent and importance of the seed trade in the United States is considered, it seems presumable that an organization of this kind might be desirable and productive of benefit to its members, as well as tend to foster and promote the agricultural and horticultural interests of the country in general.

The convention closed with an enjoyable and delightful excursion tendered to the visitors by the New-York Seed Trade. The steamer Magenta having been engaged for the occasion, a large company of ladies and gentlemen participated in the sail up the Hudson, then around the lower part of Manhattan Island, up the East River under the famous bridge, around Blackwell's Island, down the Bay, through the Narrows and far out in the open sea, till the lowering sun admonished to return. An elegant luncheon served on board was deservedly appreciated by the guests. All parted well pleased with the trip, and convinced that their visit to New-York, and the forming of a nearer acquaintance with those whose interests are so closely allied with their own, has been time well spent, regretting only that the pleasant hours have passed all too fleeting.

AMERICAN NURSERYMEN'S ASSOCIATION.

The members of this society held their annual convention, in St. Louis, on the 21st and 22d of June. Many nurserymen and others interested in various horticultural pursuits were present, nearly every State in the Union being represented. Many valuable papers were read and discussed. Through the efforts of ex-Governor Colman, the president of the society, and the attentions and hospitality of the citizens of St. Louis, the occasion was made very pleasant for the guests.

Miscellaneous.

THE CHINESE BAMBOO.

A Bamboo, be it said, can be put to more uses than any other thing of the vegetable kind in the world. What would our opposite neighbors in the Celestial Empire do without it? It is employed for nearly every conceivable, besides some almost inconceivable purposes on land and water, and even in the air; for kites are made of it, and so are the queer little whistles bound to the tame pigeons to frighten crows from the grainfields. It can be used in the whole cane, in strips, in segments, or in threads, and no part comes amiss. The tubes are suitable for water-pipes, and so it answers for aqueducts; it is so strong that foot-bridges are constructed of it, and light enough for rafts; so available that a whole house can be built of it—the frame, the thatch, the lattices, the partitions; and it furnishes material for the tables and chairs, and some of the utensils and decorative articles; it is so hard that knives are made from thin slices, and so delicate that it may be carved into daintiest of boxes, and even thimbles and necklaces; so elastic that baskets are woven of it, so fibrous that it may be twisted into ropes and cordage. It supplies lining for the chests of tea, strands for fishing-nets, strips for fans, and canes stiff enough for oars and spears and palanquin-poles. It is one of the four things without which China would be China no longer: rice for food, tea for drink, silk for wear, and Bamboo for everything.—*Amanda B. Harris, in Wide Awake.*

A FIFTEEN-STORY GARDEN.

Mr. William G. Freeman's garden, one of the finest in Mauch Chunk, says the *Gazette*, is typical of the "Switzerland of America." It requires a good deal of engineering skill to lay out a garden on a hill two hundred feet high, and so steep that one could only climb it when armed with an alpenstock, and even then only by firmly inserting the toe-nails in the crevices of the red rock that formed the precipitous bluff, and Mr. Freeman has accomplished the difficult task. By a liberal outlay of money and labor, he has built a garden containing nearly an acre of ground and separated into fifteen stories by walls built across its entire breadth. The ascent of the stories is by means of a long flight of steps, several hundred in number, and from a rustic arbor, somewhere up in the tenth or eleventh story, a splendid view of the borough is had.

INSECTS VISITING FLOWERS.

Mr. A. W. Bennett and Mr. R. M. Christy have been reporting to the Linnæan Society, of London, the result of their observations on the visits of insects to flowers. As respects preference for particular colors, Mr. Bennett has noticed among the Lepidoptera that 70 visits were made to red or pink flowers, 5 to blue, 15 to yellow, and 5 to white; the Diptera paid 9 visits to red or pink, 8 to yellow, and 20 to white; Hymenoptera alighted 303 times on red or pink flowers, 126 on blue, 11 on yellow, and 17 on white flowers. Mr. Christy records in detail the movements of 76 insects, chiefly bees, when engaged in visiting 2400 flowers. He tabulates the same, and concludes therefrom that insects, notably the bees, decidedly and with intent, confine their successive visits to the same species of flower. According to him, also, butterflies generally wander aimlessly in their flight; yet some species are fairly methodical in their habit. He believes that it is not by color alone that insects are guided from one flower to another of the same species, and he suggests that the sense of smell may be brought into play. Bees, he avers, have but poor sight for long distances, but see well at short distances. Of 55 humble-bees watched, 26 visited blue flowers. Of these, 12 were methodic in their visits, 9 only irregularly so, and 5 not at all; 13 visited white flowers, whereof 5 were methodic and 8 the reverse; 11 visited yellow flowers, of which 5 were methodic and 6 were not; 28 visited red flowers, 7 appearing methodic, 9 nearly so, while 12 were the contrary.

A NABOTH'S VINEYARD.

England's wealthiest baronet is said to be Sir John Ramsden, of Byram, Yorkshire. His rent-roll is computed at $850,000 a year. He owns almost the whole of Huddersfield, the great manufacturing center. The little bit he doesn't own was a very Naboth's vineyard to his father, who, according to popular tradition, once offered to its Quaker owner to cover it with sovereigns if he would sell it. "Edgewise, friend Ramsden?" quoth the Quaker. "In that case it is thine; otherwise all Huddersfield must still belong to thee and me." "Edgewise" was rather more than the baronet could swallow.

DURABILITY OF POSTS.

It has long been a disputed point whether posts set in the ground "top end down" will last longer than when set in the position in which they grew. To obtain a satisfactory answer to this question, some fifteen years ago, when building Grape trellises, we set the posts of one row "upside down," all others "butt end" down. All the posts were Chestnut, and when they commenced to decay we could see no difference in their durability—all came down and had to be replaced about the same time.

Professor Beal's careful experiments made at the Michigan Agricultural College, with different kinds of timber, showed the same results. In some cases it was the "top end down" which lasted longer, in others the "bottom end down," and sometimes there was no difference in durability; from which it is inferred that where one piece decayed more than the other, it was caused by some trifling differences in the sticks.

NIGHT-BLOOMING CEREUS.

At a recent meeting of the Torrey Botanical Club, New-York, Dr. Kunzé showed a *Cereus serpentinus* and fruit, a Cactus which is not known to have hitherto perfected its fruit in the United States. The flower was fertilized with pollen a year old, taken from *Cereus Macdonaldiæ*. The doctor stated that some of these night-blooming *Cerei* sometimes flower in day-time, an occurrence probably due to a fall in the temperature.

BOOKS AND PAMPHLETS RECEIVED.

The Farmer's Call is the title of a new monthly published at Quincy, Ill. Its initial number is well filled with interesting and valuable original matter, as well as judicious selections. That it is ably and carefully edited will be superfluous to mention, when it is stated that our esteemed correspondent, John M. Stahl, is its editor.

The American Silk and Fruit Culturist, published monthly by *Glover & Campbell, Philadelphia*, begins its second volume with the July number. This journal is ably edited and neatly printed, and renders efficient work in promoting an industry which, although as yet in its infancy, is destined to become of vast importance.

The Southern World, of *Atlanta, Ga.*, is a handsome, richly illustrated, and well gotten up semi-monthly, devoted to the rural, industrial, and commercial interests of the country, and especially to the development of the many Southern resources. It is surprising that so good a paper can be furnished at the low subscription price of $1 a year.

Cornell University Experiment Station, Second Report.—The board of control of this station consists essentially of the Agricultural Faculty of the University, which carries on this work with the small appropriation made by the trustees. The larger part of the pamphlet is devoted to Prof. J. H. Comstock's excellent monograph on Scale Insects. It contains also reports of the various experiments in cattle-feeding and with field crops and fertilizers, made at the station during the year.

Massachusetts Horticultural Society, *Transactions for the year* 1882, *Part II.*—This volume, like all its predecessors, embraces much information of more than temporary interest. Several of the papers read at the meetings we have already been able to publish in our columns, as the society, in its characteristic progressive spirit, has issued advance sheets of its proceedings, copies of which were kindly sent us by Secretary R. Manning. These and many other papers of equal value are here preserved in convenient and permanent form.

Kansas; Its Resources and Capabilities, its Position, Dimensions, and Topography. Information relating to vacant Lands, Agriculture, Horticulture, and Live Stock. Together with Statements and Statistics concerning Schools, Churches, Manufactures, Mines and Mining, etc., etc. Prepared by the State Board of Agriculture. This interesting pamphlet is printed in the English, German, Swedish, and Danish languages, is for gratuitous distribution, and will be mailed free to any one upon application, stating the language desired, addressing *Wm. Sims, Secretary, Topeka, Kansas.*

Report of the Fruit Growers' Association of the Province of Ontario, *P. C. Dempsey, President; D. W. Beadle, Secretary.* The continuous and increasing prosperity and usefulness of this society are plainly visible in the large increase of members —nearly two thousand names being enrolled on its list—as well as the improvement and enlargement of its annual reports. The volume before us contains, in addition to the proceedings of the meetings, many highly valuable papers on various horticultural topics, devoting also a considerable space to matters pertaining to forestry. The report of the Entomological Society, which is full of interesting matter, is bound with it, both together making a handsome volume.

The Natural Cure, a Manual of Hygiene, for Well and Sick, by *C. E. Page, M. D.* 278 pp., 12mo, extra cloth. Price, $1 00. *New-York: Fowler & Wells, publishers.*—There is probably no fallacy rooted deeper in the popular mind than the supposition that drugs are always necessary to restore health to the sick; while to the contrary, the leading tendency of progressive medical and natural science, during the present half century, has been to demonstrate that in a great many cases the recuperative forces of nature, if properly directed, are far more powerful restorers than medicines. This work is designed to show the great importance of hygiene as an aid to the treatment of disorders of various kinds, and its careful study will no doubt be of benefit to those afflicted with incipient disease, as well as suggest timely preventives to those in good health.

Michigan State Horticultural Society.— Annual Report of the Secretary, *Mr. Charles W. Garfield.*—If there is any publication in this country that comes nearer to the Ideal Horticultural Report than this large, elegant volume, we have not been so fortunate as to see it. It gives not only accurate and interesting accounts of the meetings and transactions of the central society, but every one of the twenty-eight auxiliary or county societies of the State is entitled to a place in the volume. Many of these reports and the papers read at the county meetings are of great interest to horticulturists generally. But the unique and specially valuable feature of this book is the *Secretary's Portfolio.* Here are gathered, from every available source, facts, observations, experiments, and opinions in the field of horticulture, condensed and sifted, and systematically arranged, convenient for ready reference. This part in itself constitutes a valuable work; and combined with the many excellent papers by members of the society and other experienced horticulturists, it forms, in fact, a most valuable Horticultural Annual.

Insects Injurious to Fruits.—*By Wm. Saunders, F. R. S. C.*—This handsomely illustrated book will be found extremely useful to all who are engaged in fruit culture, since it treats in a concise and clear manner of all the insects known to be injurious to fruits on this continent.

These insects, numbering two hundred and sixty-six in all, and illustrated by four hundred and forty figures, are grouped in a convenient manner under the fruits they injure, thereby enabling the reader, without any previous knowledge of entomology, to determine any of them with ease. Under each species those practical points connected with its life-history which it is important that a fruit grower should know are briefly stated, and the remedies given which have been found useful in destroying the insect. To effect this purpose, much information hitherto scattered through many works has been brought together and added to the results of the author's own observations, accumulated during twenty years' experience as a practical fruit grower and a scientific entomologist.

Every fruit grower should have a copy, as it contains, in a condensed form, all the information on this subject which he requires. It will enable him to solve many problems with reference to insect depredations with the smallest expenditure of time and money. The book is written in a popular manner, and is as free from scientific phraseology as is consistent with accuracy. Published by *J. B. Lippincott* & Co., Philadelphia, Pa. Price, $3.00.

ANSWERS TO CORRESPONDENTS.

Propagating Japan Quince.—*M. O. H., Cowansville, Canada.*—This beautiful shrub may be propagated by cuttings, like the common Quince, and easier still by layering. Bend a branch to the ground, fasten with a forked stick, cover with soil, leaving the end of the branch free, and next year it may be taken off and transplanted.

Propagating Clematis.— *H. S., Fond du Lac, Wis.*—Clematis may be grown from seeds of cuttings, but the easiest way for the amateur is by layering. Plants for this purpose should be set out in rich soil and, as they grow, have their stems pegged down and covered with soil at the joints. Roots will soon form, but it is not advisable to cut the layers off before the following year.

Season for Planting Potatoes.— *B. Mercer West Va.*—If the seed has been kept well and is sound and healthy, it may be planted up to the first of July, and will, in all probability, produce a good crop. Of course, much depends on the condition of the soil, the weather, and the care bestowed upon the cultivation of the crop. For seed purposes, and for late keeping, such late planted Potatoes are preferable to very early planted ones.

Plants for Shady Rooms.—*J. F. R., St. John, N. B.*—In a room with plenty of light, although little sun, nearly all plants may be wintered satisfactorily, but special care must be taken in giving them water, as they require considerably less than when exposed to sunlight, and should never be watered before the soil becomes moderately dry. Geraniums, Fuchsias, Begonias, Callas, Oxalis, Ivy, and Ferns of all kinds, are specially suited for such situations.

Preserving Bulbs.—*Th. R. W., Roselle, N. J.*—Hyacinths, Tulips, and other Dutch Bulbs need not necessarily be taken up every year after flowering. The ground over them may be lightly hoed, raked, and sown with Portulaca or Mignonette, or some shallow rooting bedding plants, as Verbenas, may be planted between the rows of bulbs. If taken up, they should be dried in the shade, the leaves be removed, and the bulbs kept in sand in a dry place.

Cannas are easily wintered, if dug before severe frost penetrates the soil. They should be kept entirely dry during winter, placing the clumps close together on the floor of a warm cellar. It will not do to dump them in barrels or boxes before they are completely dry.

Grape Trellis.—*S. C. S., Aiken, S. C.*—Our correspondent has about eight thousand Niagara Grape-vines, set 10x10, and desires to know the best and cheapest mode for trellis and training. For strong-growing varieties, like Niagara, Concord, etc., there is no easier and more convenient system of training than the "Kniffin System," adopted almost exclusively in the Hudson River Grape region. It consists in stretching two wires horizontally, the lower three and a half, the upper six feet from the ground. Each vine has four arms, two to each wire. These arms are renewed every year by cutting off all branches except the strongest shoot nearest the main stem, which takes the place of the previous year's bearing cane. The summer pruning consists simply in cutting off the ends of shoots that may grow too rampant, except the one to be retained for next season.

Plants for Name.—*S. L. D., Utica, N. Y.*—The pretty plant with the delicate pink flowers and Aquilegia-like leaves is a *Thalictrum*, Meadow Rue, several species and varieties of which deserve more attention than they receive.

M. O. H., Cowansville, P. Q.—The specimens sent are Spiræa leaves, the smaller of *S. Ulmaria*, Dropwort, the larger, probably, *S. palmata*, Queen of the Prairie, both beautiful plants. Spiræas in general are called Meadow Sweet; but there is no accounting for popular names, they vary in different localities. Why not adopt the name Spiræa, which is euphonious enough, and about the meaning of which there can be no mistake the world over?

J. W. D., Hagerstown, Md.—The plant is a *Solanum*, of the Bitter-sweet class. We cannot give its specific name, but do not think that it is hardy.

A. M. M., Charleston, S. C.—The small, delicate grass is *Poa annua*, Low Spear Grass. It resembles the Kentucky Blue grass, *Poa pratensis*, very much, but is lower, and has smaller panicles. It is one of the most widely diffused grasses, and accommodates itself to a great variety of soils and climates. The taller grass is a wild Rye, probably *Triticum caninum*, not Rye grass, which is a *Lolium*. It affords some fodder very early in spring, and on poor soil might be cultivated to advantage.

J. C. R. D., Rutland, Vt.—Fringe Tree, or Virginia, or White Fringe Tree, *Chionanthus Virginica*, is the correct name of this gem of a tree. A description of it was given in our last November number. Spring planting is preferable in the Northern States *Jasminum nudiflorum* is hardy in sheltered positions.

Frank Siddall's Soap, the advertisement of which appears on other pages, is a real boon to every intelligent housekeeper. We know from personal experience that it facilitates wash-day wonderfully, and makes the clothes as white as snow without injuring their fabric. But no one need expect success with this soap unless the directions are followed in every detail. It is not sufficient to tell the laundress to do as directed,—for not one in a hundred will do it,—but the mistress of the house has to see to it herself, for the first few times at least.

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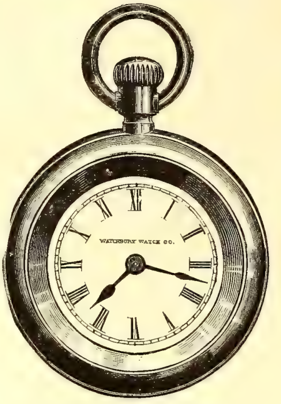
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(Mention AMERICAN GARDEN.)

THE ABOVE STEM-WINDING WATCH IS MADE BY THE CELEBRATED **WATERBURY WATCH CO.** OF WATERBURY, CONN., WHO MADE AND SOLD OVER **100,000** OF THESE WATCHES LAST YEAR. THE CO. ARE NOW MAKING **1000** DAILY.

IT IS THE CHEAPEST RELIABLE STEM-WINDING WATCH IN THE WORLD, AND IS A MARVEL OF SIMPLICITY, ACCURACY, AND CHEAPNESS. EVERYTHING IS SIMPLE AND STRONG, AND WILL NOT GET OUT OF ORDER. THE CASE IS NICKEL. WE ARE NOW OFFERING THIS WATCH AT THE LOW PRICE OF $3.50, SENT BY MAIL, PREPAID. CIRCULAR FREE. AS WE WILL INSERT THIS ADVERTISEMENT BUT ONCE, PLEASE CUT/IT OUT FOR FUTURE REFERENCE.

CUMMINGS & CO. 38 DEY ST. N. Y.

MRS. GARFIELD.

The New Strawberry of 1883. A **perfect flowering** seedling of the Crescent, which it resembles in health, vigor, bright color, **early ripening, and productiveness,** and far surpasses in **perfect form** and **high flavor** of the fruit. It has "points" that will make it **very valuable as an early market berry,** and its **high flavor** will give it a place in every family garden. **Free catalogue** gives full description, also price list of all the best old and new varieties for **Summer and Fall planting.**

HALE BROTHERS, South Glastonbury, Conn.

CAYUGA LAKE NURSERIES

(Established 1855.)

NEW **STRAWBERRIES** RASPBERRIES, BLACKBERRIES. Fruit and Ornamental **TREES,** Roses, etc. Hundreds of Varieties Prices Low, Stock Pure, **Quality Guaranteed.** *New 32-page Illustrated Catalogue and Price List.* FREE **TO ALL** applicants. Address **H. S. ANDERSON,** Union Springs, N. Y.

NEW GRAPES & OLD.
THE Jeffersona A SPECIALTY.
AN ILLUSTRATED CATALOGUE FREE
J. G. BURROW. FISHKILL N. Y.

POMONA NURSERIES.

Head-Quarters for KIEFFER'S HYBRID PEARS.
100,000 PEACH TREES.

1838 1883

100 ACRES IN SMALL FRUITS.

Old and **New** varieties, **Strawberries,** Raspberries and Blackberries, **Grapes** and Currants. Fruit and shade Trees, Vines and Plants at *lowest* rates for *pure* and *genuine* stock.

Liberal discount to the trade.

Catalogue, with colored plate, free.

WM. PARRY, Parry P. O., N. J.

ALL THE CHOICE NEW SORTS

POT GROWN STRAWBERRY PLANTS

Manchester, James Vick, Old Iron Clad, Daniel Boone, Jersey Queen, Warren, Big Bob, Nigh's Superb, and all leading varieties both new and old; grown with the assistance of irrigation, hence of superior quality. Pamphlet telling what, and how to plant *free.* **J. T. LOVETT, Little Silver, N.J.**

Introducer of the Manchester Strawberry.

ALL THE GOOD OLD SORTS.

ATLANTIC STRAWBERRY.

The leading novelty of the season. Beautiful in form and color, very prolific exceedingly firm, and of fine quality.

The trade and general public supplied on best terms.

ILLUSTRATED PAMPHLET of Strawberries, telling what and how to plant, with descriptions of all leading varieties, both new and old, and prices of pot-grown and layer plants *free.*

J. T. LOVETT, Little Silver, N. J.

SELECT LIST OF CHOICE FLOWER SEEDS.

FOR SOWING IN JULY, AUGUST, AND SEPTEMBER.

Of Easy Cultivation in Parlor, Greenhouse, and Garden.

Particular attention is invited to the following list, the seeds being of a quality that cannot be surpassed. They have been selected from the stocks of several of the most successful cultivators and exhibitors in this country and Europe, and we can confidently recommend them to growers requiring specially good strains for either commercial or competing purposes.

No.		*Per Pkt.*
276.	**Ageratum imperial dwarf.**—A delicate *blue* of dwarf habit, highly recommended for pot-culture	$0.10
280.	**Ageratum Wendland's dwarf white.**—Of similar habit to the above with *white* flowers. Very appropriate for the cemetery, also valuable for bouquets	.10
445.	**Auricula.**—The finest prize sorts, saved from choice English hybrids	.25
464.	**Balsam, camellia-flowered, "White Perfection."** The best for pot-culture during winter	.25
517.	**Calceolarias,** extra select, beautifully spotted, extra large flowers—the finest in cultivation	.50
518.	**Calceolaria rugosa,** from the finest shrubby varieties	.50
689.	**Centaurea candidissima** *(ragusina),* splendid silvery-leaved plant for beds, vases, and pots	.25
691.	**Centaurea gymnocarpa.**—Valuable for its silvery foliage	.15
731.	**Cineraria,** extra choice, from all the new varieties	.50
733.	**Cineraria, new double-flowering.**—A desirable acquisition. (Packets contain 25 seeds)	1.00
857.	**Cyclamen Persicum giganteum.** This superb variety is a new and greatly improved type, having very broad, beautifully mottled leaves, and stout flower-stalks, throwing the flowers well above the foliage	.75
880.	**Daisy, double white,** constant and perfectly double, valuable for florists	.25
1112.	**Gloxinia,** selected from prize flowers of both the drooping and erect varieties	.50
1245.	**Hollyhocks** (very double), saved from an unrivaled collection of English varieties; if sown now, will flower freely next year	.25
1558.	**Mimulus,** finest mixed, golden yellow and white ground, with crimson, rose, and scarlet blotches	.25
1680.	**Pansy, English,** extra select, saved from the finest prize flowers	.50
1681.	**Pansy, New German,** this variety is still unrivaled for size of flower and beauty of markings	.50
1884.	**Primula sinensis fimbriata** (Chinese Primrose fringed), various colors mixed, extra	.50
1890.	**Primula sinensis fimbriata filicifolia** (new fern-leaved varieties), very beautiful	.50
1894.	**Primula sinensis, fimbriata flore pleno** (new double varieties), rose and white mixed	1.00
2084.	**Stock, intermediate,** scarlet, white, and purple, extra mixed	.15
2107.	**Stock, Brompton,** superior for pot-culture, scarlet, white, and purple mixed	.15
2125.	**Sweet William, auricula-flowered,** this variety far surpasses anything before offered	.20
2272.	**Wallflower,** extra fine double German	.25

For a more extended list, see our Seed Catalogue.

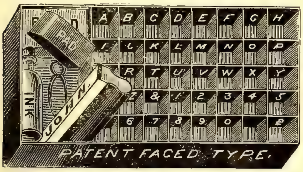
Hardy Annuals, Biennials, and Perennials for Autumn sowing. Collections of 20 varieties, $1.00.

These collections contain only such varieties, that, if sown during the months of August and September, and slightly protected during Winter by a covering of evergreen boughs, will bloom early the following year.

B. K. BLISS & SONS, 34 Barclay Street, New-York.

An Entire Printing Office for 72 Cts.

No. 61 Type No. 62 Type No. 63 Type No. 64 Type



Solid Rubber Type—Family Fonts for marking Clothes, Printing Cards, Books, Billheads, or any printing that can be done with Metal Type. Combines the convenience of metal type with the flexibility, durability and elegance of the rubber stamp. This outfit contains **OVER 125 LETTERS, FIGURES, &C., A PRINTER'S CASE, with INDELIBLE INK, PADS, HOLDERS, TWEEZERS,** and full directions, thus making a **COMPLETE PRINTING OFFICE** for family use. The type is made in four different styles as per sample above. In ordering name style type desired as indicated by Nos. 61, 62, 63 and 64. Remember over 125 letters, with Ink, Holder, Pads, Tweezer &c., all in a neat box with directions, by return mail, post paid, for **ONLY 72 CENTS** the price you would pay for a single name. With this Outfit any boy or girl, man or woman, can print 500 cards an hour, visiting or business, and can go in any residence or store and take their order and print their cards while there. In ten minutes you can print a pack of cards and deliver them. If your order is received on or before **DECEMBER 1st, 1883,** we will enclose with the above outfit **BLANK CARDS** sufficient to start you in business, and all for only **72 Cents.** The whole outfit can be carried in your coat pocket, and you can travel over the United States printing cards in every city and village you pass through. Postage stamps taken. When you order, mention this paper. Address

H. C. WILKINSON & CO., 197 Fulton St., New York.

SHORTHAND Is successfully taught by mail. Send for a circular. **Harry Angell, 354 4th Avenue, New York City.**

HOT!

"Yes, sir; the hottest day for ten years." The speaker owned a thermometer and kept a record of the temperature, both summer and winter. Try it for yourself one year, and you will never regret it. We offer *reliable* thermometers from 25 cents up, according to size and finish. Look at our prices!

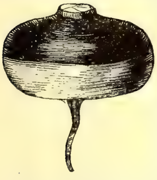
Thermometers.

	Each.
Tin Case, 7-inch	$0.25
" " 8 "	.30
" " 12 "	.40
Black Walnut, 9 inch, Round Ends	.50
" " 8 " Square "	.35
" " 10 " " "	.45
Dairy (Flange), 7 "	.30
" " 8 "	.35
" " 10 "	.45

If to be sent by mail, add 20 cents for postage and registry fee on each thermometer. Postage stamps taken.

B. K. BLISS & SONS,
34 Barclay Street, N. Y.

TURNIP SEED



All grown from carefully selected roots.

New Varieties.

Jersey Lily.—Unquestionably the most perfect in outline, and the earliest White Turnip grown; of exquisite flavor; in shape as perfect as an orange; with a single tap-root and very distinct, small top. Per pkt., 5 cents; oz., 10; ¼ lb., 30; lb., $1.00.

Extra Early Purple-top Munich.—A very distinct and remarkably handsome early Turnip, with a bright purplish-red top and fine mouse-tail root. It has proved to be quite *three weeks* earlier than any other variety sown on the same day side by side with it. Per pkt., 5 cts; oz., 10; ¼ lb., 30; lb., $1.00.

Turnip, Golden Rose.—The hardiest and best Winter Turnip; flesh of a rich golden yellow color, with single tap-root; flavor most delicate and melting. Per pkt., 5 cts.; oz., 10; ¼ lb., 30; lb., $1.00.

If by mail, in quantities of 4 oz. and upward, postage must be added at the rate of 16 cents per pound.

For general list of turnip seed, see advertisement of Vegetable Seeds in another column.

B. K. BLISS & SONS, 34 Barclay Street, N. Y.

MILLET SEED.

The month of July is the best time for sowing Millet Seed.

German or Golden Millet	per bushel	$2.00
Hungarian	" "	1.50

Bags, 25 cents each, extra.

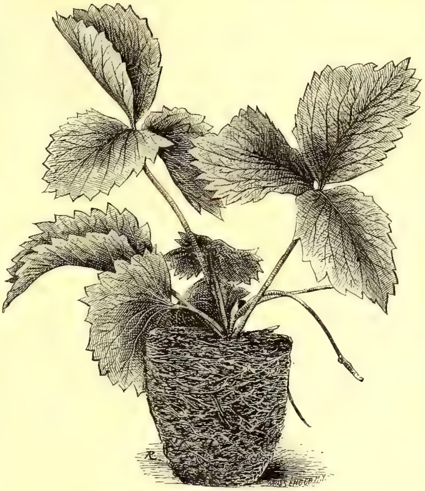
B. K. BLISS & SONS, 34 Barclay Street, N. Y.

SILVER-HULL BUCKWHEAT.

This variety is a great improvement upon the ordinary Buckwheat. Sown at the same time as the common Buckwheat, it continues in bloom longer, matures earlier, and yields nearly double under the same conditions. The grain is of a beautiful light gray color, varying slightly in shade, and the corners are much less prominent than in the ordinary variety, while the husk is thinner, thereby saving from fifteen to twenty per cent. waste in the process of manufacturing into flour. Price, per peck, 75 cents; bushel, $2.00. By mail, one pound, 40 cents; three pounds, $1.00.

B. K. BLISS & SONS, 34 Barclay Street, N. Y.

POTTED STRAWBERRY PLANTS.



(Ready about the first of August.)

Not Mailable.

The following list embraces the popular varieties of this luscious fruit, selected for quality and flavor:

James Vick, $5.00 per 100; $3.00 for 50; $2.00 for 25.

Big Bob.
Jersey Queen.
Manchester.

$3.00 per 100; $2.00 for 50; $1.25 for 25.

Bidwell.
Black Defiance.
Charles Downing.
Cumberland Triumph.
Duchess.
Glendale.
Great American.
Hervey Davis.
Jucunda.
Kentucky.
Monarch of the West.

President Lincoln.
Sharpless.
Seth Boyden.

$2.50 per 100; $1.50 for 50; $1.00 for 25.

Varieties not named, will be potted, to order, at three weeks notice.

For further information, we refer to our Strawberry Plant list, which will be mailed to all applicants.

B. K. BLISS & SONS, 34 Barclay Street, New-York.

Vegetable Seeds for sowing in July, Aug. & Sept.

If by mail, in quantities of 4 ounces and upward, postage must be added at the rate of 16 cents per pound; and for postage on Peas, at the rate of 25 cents per quart.

	Per pkt.	Per oz.	Per ¼ lb.	Per lb.
Cabbage, Early Jersey Wakefield	10 cts.	$0 75	$2 00	$7 50
— Henderson's Early Summer	10	50	1 75	6 50
— Early York	5	20	60	2 00
— " Winnigstadt	10	25	75	2 50
— " Flat Dutch	10	50	1 75	6 00
— " Schweinfurt	10	30	1 00	3 50
— " Fottler's Improved Brunswick	10	50	1 75	6 00
— Premium Flat Dutch	10	40	1 50	5 00
— American Drumhead	10	40	1 50	5 00
Cauliflower, Earliest Paris	15	1 00	3 50	12 00
— Sea Foam (Extra Early, New and Fine)	50	10 00		
— Half-Early Paris	15	80	3 00	10 00
— Early Dwarf Erfurt	25	2 00	7 00	24 00
— Extra Dwarf Early Erfurt (Extra Select)	50	8 00		
— Early Snowball	25	5 00		
— Early Nonpareil	15	80	3 00	10 00
— Algiers	15	1 00	3 50	12 00
Corn Salad, Lamb's Lettuce, or Fetticus	5	15	30	1 00
Endive, Green Curled	5	20	60	2 00
Kale, Improved Siberian	5	10	25	80
— Dwarf Curled, German Greens, or "Sprouts"	5	10	25	90
— Green Curled Scotch	5	10	30	1 00
Lettuce, Curled Simpson	10	20	60	2 00
— Simpson's Black Seeded	10	25	75	2 75
— Curled Silesia	5	15	50	1 50
— Butter	10	25	75	2 50
— Boston Market *(True)*	10	25	75	2 50
— Hardy Green Winter	5	20	60	2 00
— Brown Dutch	5	20	60	2 00
— Tennis Ball	10	25	75	2 50
— Drumhead	5	15	40	1 30
Mushroom Spawn, English, in bricks, 1 lb., 15 cts.; 8 lbs., $1.00.				
— — French, in 2 lb. boxes, per box, $1.00. By mail, 16 cts. per lb. extra.				
Onion, Italian Varieties — Giant Rocca	10	25	80	3 00
— — Giant Red Italian Tripoli	10	25	80	3 00
— — Giant White Italian Tripoli	10	25	80	3 00
— — Italian Varieties — New Neapolitan, Marzagole	10	25	80	3 00
— — " The Queen	10	40	1 25	4 50
Radish, Scarlet Turnip	5	10	20	60
— Olive-shaped Scarlet	5	10	20	65
— Long Scarlet Short Top	5	10	20	60
— Black Spanish	5	10	20	60
— California Mammoth White	5	15	50	1 50
— Chinese Rose-colored	5	15	50	1 50
Spinach, Round	5	10	15	35
— Prickly	5	10	15	35
— Large Round-leaved Viroflay	5	10	15	40
— New Savoy-leaved — an extra fine variety, much esteemed	5	10	15	40
Turnip, Early Flat Dutch	5	10	25	75
— White Top Strap-leaved	5	10	25	75
— Red Top Strap-leaved	5	10	25	75
— Yellow Aberdeen Purple Top	5	10	25	75
— Robertson's Golden Ball	5	10	25	75
— Large Yellow Globe	5	10	25	75
— White Globe Purple Top	5	10	25	75
— Large White Norfolk	5	10	20	60
— Early White Egg	5	10	25	75
— Yellow Malta	5	10	25	75
— Yellow Stone	5	10	25	75
— Seven Top	5	10	25	75
— Long White or Cowhorn	5	10	25	75
— Early Yellow Finland	5	10	30	1 00
	Per pt.	Per qt.	Per pk.	Per bus.
Peas, Bliss' American Wonder	35 cts.	50	3 00	10 00
— " " Racer	35	80		
	Per pkt.			
— Early Dan O'Rourke, improved	10	25	1 75	6 00
— First and Best	10	30	2 00	6 00
— Philadelphia Extra Early	10	25	1 75	6 00
— Champion of England	10	30	2 00	7 00
— Marrow Fat Black-eyed	10	20	1 00	3 00
— Yorkshire Hero	10	40	2 50	9 00

B. K. BLISS & SONS, 34 Barclay Street, New-York.

DONT BE A CLAM

CLAMS ARE NOT A PROPER MODEL FOR A HUMAN BEING TO COPY AFTER

they are wedded to their old clam-like notions:—they open their shells to take in their accustomed food, *but they shut up very tight when anything new comes along*

FOR THEY ARE CLAMS

and dont propose to allow things to penetrate their shells that were unknown to their grandfather clams and to their grandmother clams:

A Clam is not a good thing for a Housekeeper to copy after and a Clam is not a good thing for a Grocer to copy after:—

A WIDE-AWAKE HOUSEKEEPER will try new ways *that are endorsed by leading newspapers:—*
A WIDE-AWAKE GROCER will try a new Molasses Gate and a new Coal Oil Can, *and will buy the kind of goods his customers call for.*

Of course a woman is not expected to try every new thing that is offered her; if she does she will often be duped:—But when *so reliable a paper as* **"The American Garden"** *emphatically endorses in the strongest manner* every claim made for The Frank Siddalls Soap, there is certainly no excuse for not giving it one square, honest trial strictly as directed. Intelligent women are rapidly adopting new methods about their work, and those who have done so *are already beginning to look down with pity on persons who are set in their old ways:*—**SO DONT BE A CLAM**

FOR LADIES TO READ

ONLY THINK! ONE SOAP FOR ALL USES!

To the Housekeeper and her Help, to the Boarding-House Mistress and her Lady Boarders, to the Farmer's Wife and her Daughters, for the Toilet and Bath of Every Lady of Refinement, The Frank Siddalls Soap offers great advantages in Economy of Use, in its effect on the Skin, and in its freedom from injury to the fabric.

Among the Housekeepers of New England (where thrifty Housekeeping is proverbial) it has gained immense favor, and there is no better evidence of the merits of an article than to be able to say that **it meets approval in the Homes of New England.**

—FOR LAUNDRY AND KITCHEN USE—

JUST THINK! No Scalding or Boiling! No Smell on Wash-day!
Clothes Clean and Beautifully White, and as Sweet as if never worn!
No Rough, Red Hands! Clothes remain White even if put away for years!
The Soap Positively Guaranteed not to injure even the Finest Laces!

> ***Where water or fuel is scarce*** *remember*
> *that with The Frank Siddalls Soap* ***much less fuel*** *is necessary,*
> *and* ***a few buckets of water*** *is enough for a large wash.*

JUST THINK! Flannels and Blankets as soft as when New!
The most delicate Colored Lawns and Prints actually Brightened!
A girl of 12 or 13 can easily do a large wash without even being tired!
And best of all, the wash done in less than half the usual time!

Use The Frank Siddalls Soap for Washing Dishes:—it is the only Soap that leaves the dish-rag Sweet and White, and the only Soap that can be depended upon to remove **the smell of Fish, Onions, etc., from forks and dishes. When you have a dirty dish-rag** dont blame your servants; *it is not their fault;* for you have given them soap made of Rancid Grease, and the result is a foul dish-rag; use The Frank Siddalls Soap, made of Pure Beef Suet, and you will have a Clean, Sweet-smelling Cloth.

So here is the Housekeeper's Choice:
Common soap and a foul dishrag—or—Frank Siddalls Soap and a dish-rag to be proud of

—FOR HOUSE CLEANING—

This is where The Frank Siddalls Soap appeals to the real ladylike Housekeeper. Use it for Scrubbing and Cleaning. Use it for Washing Paints, Windows and Mirrors, Wine-glasses, Goblets, and all Glass Vessels; ordinary soap, as is well known, is not fit for washing glass; while The Frank Siddalls Soap is a most elegant thing for this purpose. **Use it for Washing Marble Door Steps, Bureau Tops, Marble Statuary, Mantlepieces, etc:**—*It is the nicest thing for marble that can be imagined.*

For Washing Bed-clothes and Bedding, even of Patients with Contagious and Infectious Diseases, and for washing utensils used in the Sick-room, it can be relied on to cleanse and purify without scalding or boiling a single article.

—FOR WASHING BABIES AND BABY CLOTHES—

Babies will not suffer with prickly heat or be troubled with sores of any kind when nothing but The Frank Siddalls Soap is used, **its ingredients being so pure and mild.**

Dont use Soda to wash nursing bottles or gum tubes—*dont even scald them*—but wash them only with this Soap, and they will never get sour, but will always be sweet and clean.

—FOR THE SCHOOL BOY AND GIRL—

It is the best thing for washing blackboards and school slates, leaving them entirely free from grease, and without causing a scratch; the soap does not have to be rinsed off

FOR MEN TO READ

ONLY THINK! ONE SOAP FOR ALL USES!

The Merchant and his Clerk, the Photographer, the Optician, the Jeweler, the Artist, the Actor, the Bather at the Turkish Bath, the Printer, the Barber, the Hotel, the Stable, the Railroad, the Army, and the Navy, will all reap great benefit from the remarkable properties of The Frank Siddalls Soap.

—FOR SHAVING—

Its heavy, lasting Lather is so different from that of any Shaving Soap that its superiority is incredible; the face never burns or smarts, no matter how dull the razor, how tender the skin, or how closely shaved, *and the Sponge and Soap Cup will always be sweet-smelling.* **IMPORTANT FOR SHIPBOARD AND ARMY USE:—It washes freely in hard water, and where water is scarce, remember that The Frank Siddalls Way of Washing only takes a few buckets of water for a large wash.**

—FOR HORSES, HARNESS, CARRIAGES, etc.—

It is vastly superior to Castile Soap for washing a horse's mane and tail, while for washing Sores, Galls and Scratches *it is indispensable.* No stable is complete without it. For Harness, it is better than Harness Soap, thoroughly cleansing the leather and rendering it soft and pliable, while **for washing cars and car windows,** cleaning the running-gear and bodies of fine carriages, it is without a rival; by its use paint and varnish will last much longer, **and the Windows and Lamps will be as clear as crystal.**

The Frank Siddalls Soap is elegant for washing Printing Ink from the hands, and from Printers' Rollers, Type and Electrotypes, being much better than Benzine and safer, as shocking accidents by fire often occur from Benzine, and parents whose children use Amateur Printing Presses should remember this.

Type and Rollers washed with The Frank Siddalls Soap are in splendid condition for immediate use, and will take the ink readily.

SPECIAL FOR PHYSICIANS

To the Physician, the Druggist, the Nurse, and the Patient, its importance is becoming more and more widely known and appreciated, and it is rapidly superseding Imported Castile and similar soaps for use in the **Sick Room, the Nursery and Hospital.**

—IN CASE OF INGROWING TOE-NAILS—

In place of cotton-wool, a little of The Frank Siddalls Soap should be kept pressed between the nail and tender flesh—one trial will prove its superiority over cotton-wool

—AS AN ANTISEPTIC AND DISINFECTANT—

For Washing Old Running Sores, Bed Sores, Cuts, Wounds and Burns; for washing **Chafed Places on Infants and Adults;** for use by persons suffering with **Salt-Rheum, Tetter, Ringworm, Itching Piles, Eruptions on the Face,** and for children afflicted with **Scaly Incrustations,** it is without any of the injurious effects so often experienced when any other soap is used, while for washing the invalid **it is a most valuable aid to the Physician,** by the thoroughness with which it removes the exhalations from the skin that would otherwise tend to counteract the action of his medicines by closing up the pores, **and which cannot be accomplished by any other soap.**

Letters from well-known Physicians, describing their experience in their practice with The Frank Siddalls Soap, leave no doubt of the truth of these assertions.

Use it for Washing Sores on the Feet, caused by walking or wearing tight shoes.
Always leave plenty of the lather on—dont rinse the lather off.

For Washing Graduate Measures and Mortars it is better than anything else.

A representative from this paper
has visited the business office of
The Frank Siddalls Soap
and thoroughly investigated
the offer of

A PREMIUM

to the Wife of every Grocer

IN THE UNITED STATES:—

The Premium is a most elegant one
and is undoubtedly sent
FREE OF CHARGE
after a thorough trial of the Soap
has been made
(even where her husband)
(does NOT sell the Soap)
and enough soap to make the trial
is sent

FREE OF CHARGE.

MADAME DEMOREST

Demorest's

Monthly Magazine

(*The Great Metropolitan Fashion Authority*
from the Atlantic to the Pacific)

Gives her personal endorsement
of The Frank Siddalls Soap,
and recommends its trial
by every housekeeper.

Use The Frank Siddalls Soap
for Washing Dishes

The Boston Pilot

One of the most valuable advertising
mediums in New England,
with a circulation exceeding that of any
other Catholic Journal in the United States
and an authority
throughout America and Europe, says:—

The announcements of
The Frank Siddalls Soap are a
welcome addition to the columns
of "*The Pilot,*" as it is one of the
few advertised articles that
comes fully up to every claim
made for it, and every man and
woman should give it a trial.

SPECIAL PREMIUM TO THE WIVES OF GROCERS

A most Magnificent Premium can be had by the Wife of every Grocer in the United States.

The Premium is a very handsome Velvet Plush Case, containing 6 Heavy Plated Silver Knives and 6 Forks, manufactured specially for this purpose, and guaranteed to be the finest quality made.

The Premium is given to the Wife of a Grocer even if her husband does not sell The Frank Siddalls Soap

It will be sent *after* she has made a *Thorough Trial* of the Soap, and enough Soap to make the trial will be sent *Free of Charge*

The Wife of a Grocer who desires to get this Valuable Premium *MUST* Try a cake of The Frank Siddalls Soap on the whole of the regular family wash *strictly by the very easy directions*, and then send word by mail to the office in Philadelphia, together with business card or printed advertisement of some kind to show that her husband is a grocer, or send a bill for groceries bought of some wholesale grocer.

If you sell the Soap you can get a cake out of the store to try:—
if not, a cake will be sent by mail, *FREE OF CHARGE*, if the 2 promises are made

(The Premium is NOT sent until AFTER a thorough Trial of the Soap has been made.)

FOR THE TOILET IT IS SIMPLY PERFECTION

All perfumes are injurious to the skin; *The Frank Siddalls Soap is not perfumed,* but has an agreeable odor from its ingredients, **that is always pleasant, even to an invalid;** it never leaves any odor on the Skin; the face never has any of the unpleasant gloss that other soaps produce; it should always be used for washing the hands and face of those troubled with Chapped Skin:—**a child will not dread having its face washed when The Frank Siddalls Soap is used,** as it does not cause the eyes to smart with the dreaded intense sting that even Imported Castile Soap often causes; **it always leaves the skin Soft and Smooth.**

No tooth-powder or tooth-wash will compare with it.
A little on the tooth-brush makes the mouth, teeth and gums perfectly clean.
It leaves a pleasant aromatic taste, a sweet breath, and a clean tooth-brush.
——TRY IT FOR WASHING YOUR EYE-GLASSES AND SPECTACLES——

PERSONS WHO DESPISE A MUSTY SPONGE or WASH-RAG will appreciate The Frank Siddalls Soap. Whenever a Sponge has a disagreeable smell, it is due entirely to the so-called fine toilet soap that is such a favorite with you; it is the place of soap to keep a sponge or wash-rag sweet and clean, and The Frank Siddalls Soap will do it without any occasion to expose it to the air or sun.

It is especially adapted for toilet use with the hard water of the West and in Lake-water

When used for washing the head it is better than shampooing; plenty of the rich, white lather should be left in the hair (*not washed out;*) **it entirely does away with the use of Hair Tonic, Bay Rum, Bandoline, Pomade or any hair dressing.** Used this way it removes dandruff, the hair will not collect dust, and there will not be any itching of the Scalp:—**Coat Collars, Hat Linings and Neck-wear will keep clean much longer. The Frank Siddalls Soap is superior to Benzine or Ammonia for Cleaning Coat Collars, and for removing grease spots, etc., and is guaranteed not to injure the garment.**

ODD USES—QUAINT USES—SPECIAL USES

Eminent Physicians claim that skin diseases, such as **Tetter, Ringworm, Pimples,** etc., are caused by Soap made from rancid grease:—use The Frank Siddalls Soap and avoid all such troubles.

Artificial Teeth and Artificial Eyes will retain their original brilliancy unimpaired when kept washed with The Frank Siddalls Soap.

It washes Telescope Lenses and Photographers' Plates without a possibility of scratching them, while it is being used with the most gratifying results in **Schools of Design** for washing the expensive brushes used by the students.

For Washing Pearls, Coral, Diamonds and other precious stones, Jewelry, Gold and Silver Plate, and for cleaning Watch Crystals, it is considered by Jewelers superior to any powder or other preparation.

If you have a Pet Dog wash it with The Frank Siddalls Soap; be sure to leave plenty of the lather in its hair, and you will be surprised at the improvement; a dog washed occasionally with this Soap will be too clean to harbor fleas.

Use it for taking grease spots out of fine carpets and for cleaning rag carpets; also for cleaning garments of every description. It is better than Benzine or Hartshorn for cleaning clothing, and is guaranteed not to injure the fabric.

Use it for wiping off oil cloths, linoleum, &c.—**IT KEEPS THE COLORS BRIGHT,** *and as it does away with scrubbing them, they will of course last much longer.*

The hands of those at farm work, when The Frank Siddalls Soap is used, *will not chap* from husking corn, driving teams, and other out-door employment, ***but of course*** toilet soap, home-made soap, or any other kind **MUST NOT BE USED (*not even Castile Soap*)**

It is invaluable to farmers for washing wool before carding it or before selling it.

Milk Pans, Churns, and all Milk Utensils when washed with The Frank Siddalls Soap will be as clean and sweet as new, and do not require scalding or putting in the sun. It also THOROUGHLY removes the smell from the hands after milking

HOW A LADY CAN GET THE SOAP TO TRY

at Places where it is Not Sold at the Stores.

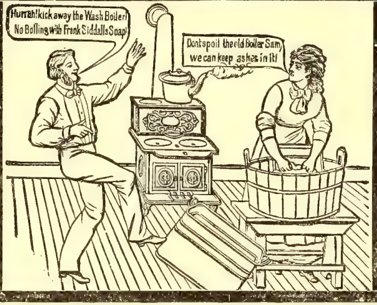
Send the retail price 10 cents in money or postage stamps. *Say she saw the advertisement in* "THE AMERICAN GARDEN." Only send for One Cake, and make these 2 promises:

Promise No. 1—That the Soap shall be used *the first wash-day* after receiving it, *and that every bit of the family wash shall be done with it.*

Promise No. 2—That *the person sending will personally see* that the printed directions for using the Soap shall be *exactly* followed.

By return mail, a regular 10-cent cake of Soap will be sent, *postage prepaid;* it will be packed in a neat iron box to make it carry safely, and 15 cents in POSTAGE STAMPS will be put on.

All this is done for 10 cents,
because it is believed to be a cheaper way to introduce it than to send salesmen to sell it to the stores.


Hurrah! kick away the Wash Boiler! No Boiling with Frank Siddalls Soap!
Dont spoil the old Boiler Sam, we can keep ashes in it!

How to Tell a Person of Refinement.

A Person of Refinement will be glad to adopt a New, Easy, Clean Way of Washing Clothes, in place of the old, hard, sloppy way.

How to Tell a Person of Intelligence.

A Person of Intelligence will have no difficulty in understanding and following the very easy and sensible directions.

How to Tell a Person of Honor.

A Person of Honor will scorn to do so mean a thing as to buy the Soap and not follow directions so strongly urged.

How to Tell Sensible Persons.

Sensible Persons will not get mad when new and improved ways are brought to their notice, but will feel thankful that their attention has been directed to better methods.

And now dont get the old wash-boiler mended, but next wash-day give one honest trial to The Frank Siddalls Way of Washing Clothes.

A Wash-boiler MUST NOT be used, *NOT EVEN TO HEAT THE WASH-WATER*, and as the wash-water must only be lukewarm, a small kettle holds enough for a large wash.

A Wash-boiler will always have a deposit formed on it from the atmosphere, *in spite of the most careful Housekeeper*, which injures the delicate ingredients that are in this Soap.

Be sure to heat the water in the tea-kettle the first time, *no matter how odd it seems.*

Wash the White Flannels with the other White Pieces.

Be sure to always make the last water soapy; the clothes will NOT smell of the Soap, *but will be as sweet as if never worn*, and stains that have been overlooked in washing will bleach out while drying, and the clothes will iron easier.

Always dissolve a small piece of Soap in the starch: it makes the ironing easier, and the clothes handsomer.

The Frank Siddalls Soap washes freely in hard water without Soda, Lye, or any washing compound;

dont use *Borax, Ammonia, or any other Soap on any of the wash*

FIRST—Dip one of the garments in a tub of lukewarm water; draw it out on a wash-board and rub the Soap LIGHTLY over it so as not to waste it, being particular not to miss soaping any of the soiled places.

Then ROLL IT IN A TIGHT ROLL, just as a piece is rolled when it is sprinkled for ironing, lay it in the bottom of the tub under the water, and go on the same way until all the pieces have the Soap rubbed on them and are rolled up.

Then go away for 20 minutes to one hour—by the clock—and let The Frank Siddalls Soap do its work.

NEXT—After Soaking the FULL time, commence rubbing the clothes LIGHTLY on a wash-board AND THE DIRT WILL DROP OUT; turn the garments inside out to get at the seams, *but DONT use any more Soap;* DONT SCALD OR BOIL A SINGLE PIECE OR THEY WILL TURN YELLOW; and DONT wash through two suds. If the wash-water gets too dirty, dip some out and add a little clean water; if it gets too cold for the hands, add hot water out of the tea-kettle.

If a streak is hard to wash, rub some more Soap on it and throw it back into the suds for a few minutes.

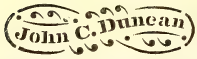
NEXT COMES THE RINSING—which is to be done in lukewarm water, AND IS FOR THE PURPOSE OF GETTING THE DIRTY SUDS OUT, and is to be done as follows: Wash each piece LIGHTLY on a wash-board through the rinse-water (*without using any more Soap*) AND SEE THAT ALL THE DIRTY SUDS ARE GOT OUT. ANY SMART HOUSEKEEPER WILL KNOW JUST HOW TO DO THIS.

Next, the Blue-water—which can be either lukewarm or cold: Use little or no Blueing, for this Soap takes the place of Blueing. STIR A PIECE OF THE SOAP in the blue-water UNTIL THE WATER GETS DECIDEDLY SOAPY. Put the clothes THROUGH THIS SOAPY BLUE-WATER, wring them and hang up to dry WITHOUT ANY MORE RINSING and WITHOUT SCALDING or BOILING A SINGLE PIECE.

Afterwards soap the Colored Pieces and Colored Flannels, let them stand 20 minutes to 1 hour, and wash the same way as the White Pieces, being sure to make the last rinse-water soapy.

The most delicate colors will not fade when washed this way, but will be the brighter.

Address all Letters:—Office of THE FRANK SIDDALLS SOAP, 1019 CHESTNUT STREET, PHILADELPHIA



MARK Your Clothing, Handkfs. Cards, &c. with our beautiful **Stencil Name Plate,** and **Indelible Ink,** Price with ink, brush &c. 50c., post paid. To Agents three for $1.00 or $3.00 per doz. Address
STENCIL WORKS, 47 Barclay St. New York.

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Wire-Gauze, Non-Explosive

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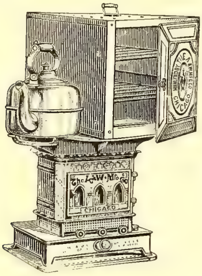

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OIL STOVE.

Economy and Comfort in the Kitchen. Perfect in its Workings and Absolutely Safe. Send for Circular.

The Adams & Westlake Mfg. Co.

CHICAGO:
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NEW-YORK:
100 Beekman St.
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45 Summer St.

STAMPING PATTERNS for Kensington, Arasene, and other Embroidery. Ten working patterns with powder, pad and instructions, 60 cents, post-paid. Any lady can use them. Address,
PATTEN PUB. CO. 47 Barclay St., New-York.

Pair SHAFT ANTI-RATTLER Springs (warranted) mailed for thirty cents in dimes or stamps. Throw away worthless rubbers, ***and relieve your mind.*** (Agencies given).
A.G. Morey & Co., La Grange, Ill.
Name this paper

POT GROWN STRAWBERRY PLANTS.

READY AUGUST 1.

"PRINCE OF BERRIES." New Layer plants only. Ready August 15. Acknowledged by all who have seen it to be the most desirable berry yet introduced. Highest flavor yet attained, equaling the wild berry in this respect. A vigorous grower, prolific, and large size: perfect flower: $3.00 per doz.; $12.00 per 100.

Atlantic. New berry of great merit, fine color, good flavor, prolific, and having remarkable keeping or shipping qualities. Layer plants, $2.00 per dozen, $10.00 per 100.

Daniel Boone Layer plants: $1.00 per dozen, $5.00 per 100.

POTTED PLANTS. James Vick, $5.00 per 100; Jersey Queen, Manchester, Big Bob, $3.00 per 100: Black Defiance, potted specially for family use, $2.50 per 100: Bidwell, Warren, Cumberland, Duchess, Longfellow, Hervey Davis, Seth Boyden, Kentucky, Chas. Downing, all at $2.50 per 100. Any other varieties supplied on two weeks' notice. Dutch Bulb catalogue ready in August.

V. H. HALLOCK, SON & THORPE, Queens, N. Y.

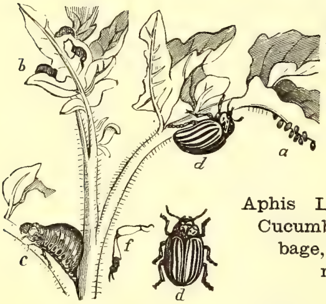
SONGS, One Cent Each

1 Baby Mine.
5 The Old Cabin Home.
6 The Little Ones at Home.
12 See That My Grave's Kept Green.
13 Grandfather's Clock.
18 Where Was Moses when the Light Went Out.
24 Sweet By and By.
26 Whoa, Emma.
33 When you and I were Young Maggie.
36 When I Saw Sweet Nellie Home.
48 Take this Letter to My Mother.
49 A Model Love Letter,—comic
53 Wife's Commandments.—comic.
54 Husband's Commandments.
56 Little Old Log Cabin in the Lane.
58 Marching Through Georgia-
60 Widow in the Cottage by the Sea.
65 The Minstrel Boy.
70 Take Back the Heart.
72 The Faded Coat of Blue.
77 My Old Kentucky Home, Good Night.
84 I'll be all Smiles to Night Love.
86 Listen to the Mocking Bird.
93 Her Bright Smile Haunts Me Still
94 Sunday Night When the Parlor's Full.
95 The Gypsy's Warning.
102 'Tis But a Little Faded Flower.
104 The Girl I Left Behind Me.
105 Little Buttercup.
107 Carry Me Back to Old Virginny.
112 The Old Man's Drunk Again.
116 I Am Waiting, Essie Dear.
119 Take Me Back to Home & Mother
120 Come, Sit by My Side, Darling.
121 Kiss Me, Kiss Your Darling.
123 A Flower from Mother's Grave.
124 The Old Log Cabin on the Hill.
130 Coming Thro' the Rye,
131 Must We, Then, Meet as Strangers
138 The Kiss Behind the Door-
139 I'll Remember You, Love, in My Prayers.
146 You May Look, but Musn't Touch.
150 There's Always a Seat in the Parlor for You.
152 I've no Mother Now, I'm Weeping
158 Massa's in de Cold, Cold Ground.
159 Say a Kind Word When You Can.
165 I Cannot Sing the Old Songs.
166 Norah O'Neal.
167 Waiting, My Darling, for Thee.
169 Jennie the Flower of Kildare.
170 I'm Lonely Since My Mother Died
172 Tenting on the Old Camp Ground.
176 Don't You Go, Tommy, Don't Go.
180 Willie, We have Missed You.
182 Over the Hills to the Poor House.
185 Don't be Angry with Me, Darling.
191 Flirtation of the Fan.
194 Why did She Leave Him?
196 Thou Hast Learned to Love Another.
203 There's None Like a Mother.
204 You Were False, but I'll Forgive.
209 Whisper Softly, Mother's Dying.
211 Will You Love Me, Whem I'm Old.
220 Annie Laurie.
222 Sherman's March to the Sea.
224 Come. Birdie, Come.
228 Love Among the Roses.
232 Old Arm Chair (as sung by Barry.)
239 The Sailor's Grave.
242 Farmer's Daughter; or Chickens in the Garden
243 Oh! Dem Golden Slippers.
246 Poor, but a Gentleman Still.
249 Nobody's Darling but Mine.
251 Put My Little Shoes Away.
252 Darling Nellie Gray.
255 Little Brown Jug.
256 Ben Bolt.
257 Good-Bye Sweetheart.
260 Sadie Ray.
270 Tim Finigan's Wake.
273 The Hat My Father Wore.
275 I've Only Been Down to the Club.
277 Kiss Me Again.
279 The Vacant Chair.
280 The Sweet Sunny South.
283 Come Home Father.
284 Little Maggie May.
286 Molly Bawn.
288 Sally in Our Ally.
209 Poor Old Ned.
292 Man in the Moon is Looking.
295 Broken Down.
300 My Little One's Waiting for Me.
301 I'll Go Back to my Old Love Again
302 The Butcher Boy.
305 I'se Gwine Back to Dixie.
308 Where is My Boy To-Night.
310 The Five Cent Shave.
319 Linger, Not Darling.
326 Dancing in the Sunlight.

We will send by mail, post-paid, any ten of these songs for **10** cents; any twenty-five songs for **15** cents; any Fifty for **25** cents. Or we will send all the above one hundred songs, post-paid for **40** cents. Remember, we will not send less than ten songs. Order songs by NUMBERS only. Send one or three cent postage stamps. Valuable Catalogue Free. Mention this paper. **WORLD MANUF'G CO., 122 Nassau Street, New York.**

HAMMOND'S SLUG SHOT,

AN INSECTICIDE AND FERTILIZER



Ready for use and safe.

GUARANTEED TO DESTROY

Potato Bugs, Chinch Bugs, Rose Bugs, Slugs,

Aphis Lice, Worms, Caterpillars, and the Striped Bug upon Melons, Cucumbers, Squash and all insects injurious to Grape Vines, Cabbage, Tobacco, Cotton, or Egg Plants, Currants, Fruit or Ornamental Trees, Rose Bushes, and all Shrubs, Greenhouse, and Hardy Flowering Plants.

SLUG SHOT was prepared at first solely to destroy the Potato Bug in gardens, but its valuable properties for the destruction of all kinds of insects, caterpillars, and other vermin, have induced the inventors to manufacture it on a large scale, by which it is offered at a reduced price (as cheap or cheaper than Paris Green), and always of uniform strength, and ready for immediate use without the trouble of mixing.

SLUG SHOT contains, in minutest quantity, **POISON!** destructive to all insect life, which is most thoroughly diffused through natural and chemical fertilizers, and kills the bug in all stages of its growth. The insect eats it in the minutest quantity, and then appears to become paralyzed, often *dying on the leaf without falling to the ground.*

It is an impalpable powder, and *does not harm vegetation;* on the other hand, it is a manure. *Dust it on the plants plentifully*, either by hand or with a dusting-tin You can easily make a duster by taking an old fruit can, perforating the bottom, and nailing the can to a stick.

QUANTITY TO AN ACRE.

When plants are small, about 20 pounds are needed; or, *take a handful and throw it over each hill, covering the leaves.* It does no harm to plants, but, on the contrary, invigorates them greatly.

The color and odor of **SLUG SHOT** prevent it in any way being mistaken or used for wrong purposes, and its composition is such that it is out of the question for a human being or quadruped to take enough to do any harm. Mr. Hammond, *the originator*, and his men *have worked days and weeks in it without any ill effects whatever.*

Pamphlets, giving a full description, with directions for use and certificates from those who have used it for the various purposes for which it is recommended, mailed free to all applicants.

SLUG SHOT is in strong, neat packages, properly labeled, weighing respectively 5, 10, and 15 pounds each. These packages are packed in barrels for the trade. The barrels will hold from 200 to 215 pounds net. Each barrel has a large poster and 100 circulars.

The price is a half cent less per pound when ordered in bulk than it is in packages. Prices, in packages, 5 lbs. 30 cents; 10 lbs. 50 cents; 15 lbs. 75 cents; in barrels in bulk, 4½ cents per pound. Slug Shot cannot be sent by mail.

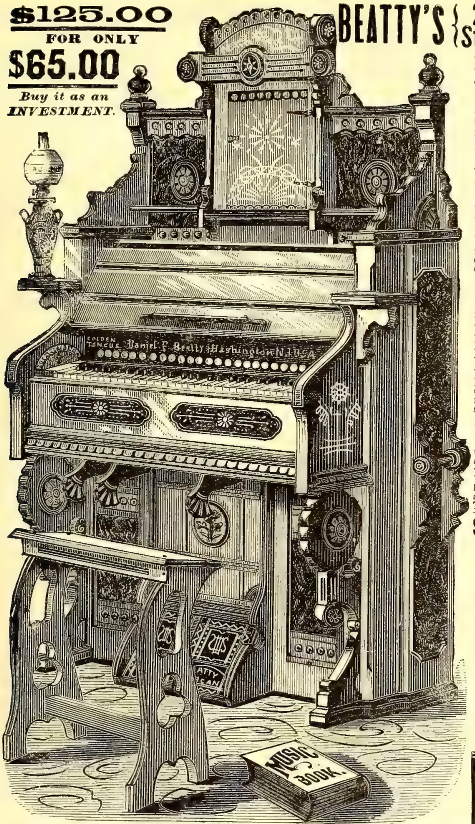
Prices to the trade given upon application.

Manufactured by B. HAMMOND & CO. Mt. Kisco Paint Works, Mt. Kisco, N. Y.

B. K. BLISS & SONS, Wholesale Agents,
34 Barclay Street, New-York City.

$125.00
FOR ONLY
$65.00
Buy it as an INVESTMENT.

BEATTY'S {27 Stop} BEETHOVEN ORGANS $65.00


GOLDEN TONGUE
Daniel F. Beatty Washington N.J. U.S.A.
MUSIC BOOK.

View, Latest Style RESONANT WALNUT Case No. 15,000.

Regular Price $125.00 without Bench, Book and Music.

The Beethoven is beyond a doubt the most popular Cabinet Organ ever placed upon the market. **During the past 119 working days 6,434** where manufactured and shipped to all parts of the civilized world. The factory is taxed to its utmost capacity to supply the demand, working **nights by Edison's Electric Light** to fill orders promptly. ☞ If you are about to purchase a Cabinet Organ or to buy one **as an investment** to sell again you should avail yourself of the special limited offer as below. (**Be sure to read Description of Stops 26 and 27, see below.**)

A BRIEF DESCRIPTION OF THE INSTRUMENT.

There are TEN FULL SETS OF GOLDEN TONGUE REEDS built upon an entirely new and scientific plan, producing music equal to an organ costing four times its value of other makes. The Reeds are arranged in the Reed Board, as follows

1st. Set Charming **Saxaphone** Reeds.	6th. Set Sweet **Voix Celeste** Reeds.
2d. Set Famous **French Horn** Reeds.	7th. Set of Soft **Cello** Reeds.
3d. Set Beautiful **Piccolo** Reeds.	8th. Set of **Dulciana** Reeds.
4th. Set **Jubilante Violina** Reeds.	9th. Set of **Diapason** Reeds.
5th. Set Powerful **Sub-Bass** Reeds.	10th Set of **Clarionet or Celeste** Reeds.

Special attention is called to the number of stops used in this famous instrument. With the above 10 sets Golden Tongue Reeds and the following Stops fourteen (14) distinct Combinations are produced, THUS MAKING THIS ORGAN EQUAL TO 14 ORGANS OF ORDINARY MAKES COMBINED.

27 STOPS, as follows:

1 **CELLO,** 8 ft. tone.	8 Diapason, 8 ft. tone.	17 VOIX CELESTE, 8 ft. tone
2 Melodia.	9 VIOLA DOLCE, 4 ft. tone	18 Violina, 4 ft. tone.
3 Clarabella.	10 Grand Expressione 8 ft.	19 Vox Jubilante, 8 & 4 ft.
4 **SUB-BASS,** 16 ft. tone.	11 **French Horn,** 8 ft. tone	20 Piccolo, 2 ft. tone.
5 Bourdon, 16 ft. tone.	12 Harp Æolian.	21 **Octave COUPLER.**
6 **SAXAPHONE,** 8 ft. tone.	13 **VOX HUMANA.**	22 Orchestral Forte.
7 VIOL DI GAMBA, 8 ft. tone.	14 Echo, 8 ft. tone.	23 **Grand Organ Stop.**
	15 Dulciana, 8 ft. tone.	24 Right Knee Stop.
	16 Clarionet, 8 ft. tone.	25 Automatic Valve Stop.

Latest Improvements: 26 MEZZO KNEE SWELL.
27 MAESTOSO PERCUSSION, open **Patented Combination Swell.** To which is added the AEROSTATIC, EXPRESSION Compass or Regulator, showing at a glance the amount of pressure upon the instrument, same as a compass to the ship so is this new improvement to the Organ. (See cut shown under the lamp or side of case.) ***Case is built from handsome Solid Black Walnut*** (*if preferred Ash or Ebonized*). ***In Solid Mahogany Case only $15.00 extra.*** (Height, 72 ins., Depth, 24 ins., Length, 48 ins.)

All cases are profusely ornamented with neat hand carvings. Manufactured so as not to take the dirt or dust. Thoroughly seasoned and kiln dried; will stand the test of any climate; handsome rubbed varnish finish and polish; carved and ornamented with Arabesque designs in gold. IT IS BUILT TO LAST, NOT FOR SHOW. THE CASE IS VERY HANDSOME. Contains Lamp Stands, Pocket for Music, Treble (3) Upright Bellows, Steel Springs, Nickel Plated Pedal Plates, BEATTY'S PATENT STOP ACTION and SOUNDING BOARDS. REGULAR CATALOGUE PRICE OF THE BEETHOVEN, IN THE ABOVE STYLE OF CASE, IS **$125.00** without Bench, Book and Music.

SPECIAL TEN-DAY OFFER TO READERS OF The American Garden.

If you will remit me only **$65.00** and the annexed Coupon within **10 days** from the date hereof, I will box and ship you this Organ, with Organ Bench, Book, etc., exactly the same as I sell for **$125**. You should order immediately, and in no case later than 10 days. One year's test trial given and a full warrantee for six years. **GIVEN UNDER MY HAND AND SEAL**

July 15th, 1883.

Daniel F. Beatty

COUPON On receipt of this Coupon from any readers of THE AMERICAN GARDEN **$60.00**

and **$65.00** in cash by Bank Draft, Post Office Money Order, Registered Letter, Express prepaid, or by Check on your Bank, if forwarded **within 10 days** from date hereof, I hereby agree to accept this Coupon for **$60.00** as part payment on my celebrated **27 Stop $125 Beethoven Organ**, with Bench, Book, etc., providing the cash balance of **$65.00** accompanies this Coupon, and I will send you a receipted bill in full for **$125**, and box and ship you the Organ just as it is advertised, fully warranted for six years. Money refunded with interest from date of remittance if not as represented after one year's use.

(Signed) DANIEL F. BEATTY.

☞ **IMPORTANT ANNOUNCEMENT!** Keys, Lumber, Steel Springs, Rubber Cloth, Reed Boards, etc,, used in the construction of this instrument, are of the best quality and are bought from the very same parties that sell to all other organ makers in the United States and Canada. The Beethoven, therefore, contains more Reeds, more Stops, more musical combination effects than an organ of ordinary make at four times its cost.

HOW TO ORDER. Enclosed find **$65.00** for Beethoven Organ in your latest style case. I have read your statement and I order one on condition that it must prove exactly as represented in this advertisement, or I shall return it at the end of one year's use and demand the return of my money, with interest from the very moment I forwarded it, at six per cent., according to your offer. ☞ **Be very particular to give Name, Post Office, County, State, Freight Station, and on what Railroad.** ☞ Be sure to remit by Bank Draft, P. O. Money Order, Registered Letter, Express prepaid, or by Bank Check. You may accept by telegraph on last day and remit by mail on that day, which will secure this special offer. I desire this magnificent instrument introduced without delay, hence this special price. *Providing order is given immediately.*

VISITORS ALWAYS WELCOME. I will give **8 days grace** from the above date, to any person who will come and select the instrument in person, and will allow **$5.00** for traveling expenses, if they buy. If possible, I would much rather have buyers come and select instrument in person. FREE COACH meets all trains. Hotel Meals Free, whether you buy or not; you are welcome anyway.

AS AN INVESTMENT. If you do not want an organ yourself, it will pay you to order the instrument to sell again. **Order now; nothing saved by correspondence.** I want the instrument introduced in this New Style of Case quickly, hence this special limited time offer and price. Only one will be sold at this extremely low price in each vicinity, and, after the ten day offer has expired, the price will **POSITIVELY** be **$125** without Bench, Book, and Music. ☞ There are over 52,000 post-offices in the United States and Canada, and I want one of these instruments introduced in each post village. Will you order one! It is shipped subject to one year's trial; nothing can be fairer.

Address or call upon the Manufacturer } **DANIEL F. BEATTY, Washington, New Jersey.**

A Skin of Beauty is a Joy Forever.

DR. T. FELIX GOURAUD'S

Oriental Cream, or Magical Beautifier

PURIFIES
AS WELL AS
Beautifies the Skin.

Removes Tan, Pimples, Freckles, Moth-Patches, and every blemish on beauty, and defies detection. It has stood the test of thirty years, and is so harmless we taste it to be sure the preparation is properly made. Accept no counterfeit of similar name. The distinguished Dr. L. A. Sayre said to a lady of the *haut ton* (a patient): "*As you ladies will use them, I recommend 'Gouraud's Cream' as the least harmful of all the Skin preparations.*" One bottle will last six months, using it every day. Also Poudre Subtile removes superfluous hair without injury to the skin.

MME. M. B. T. GOURAUD, Sole Prop., 48 Bond St., N.Y.

For sale by all Druggists and Fancy Goods Dealers throughout the U. S., Canadas, and Europe.

☞ Beware of base imitations. $1000 Reward for arrest and proof of any one selling the same.

SOLUBLE PACIFIC GUANO

SOLUBLE PACIFIC GUANO

For all Farm Crops, Gardens, Lawns and Flower Beds use SOLUBLE PACIFIC GUANO. Concentrated, cleanly, free from weed seeds, easily applied, prompt and lasting in its effects. It keeps the lawn green all summer and is unsurpassed for use in general crops.

Pamphlets furnished on application. The trade supplied by

GLIDDEN & CURTIS,
General Selling Agents, Boston, Mass.

IT PAYS to sell our Rubber Printing Stamps. Samples free.
J. M. MITTEN & Co. Cleveland, O.

FREE **25 USEFUL ARTICLES, 4 BEAUTIFUL FLORAL CHROMO CARDS size 5x3, and an Illustrated Book, to all who send two 3c. stamps for postage and packing. Mention this paper.**
E. G. RIDEOUT & CO., NEW YORK.

THE BOARDMAN TREE PAINT

Prevents Apple and Peach Borers, destroys Bark Lice and Orange Tree Scale, stops Mice and Rabbits from Girdling Trees. Also a remedy for Pear Blight, Sun Scald, Frost Cracks, Black Knot, etc. Sold by

B. K. BLISS & SONS,
34 Barclay Street, New-York,

Also, Seed Houses, Nurserymen, and Florists everywhere. Send for Descriptive Price Circulars and Testimonials. **NOBLE A. TAYLOR, Manufacturer, 77 Fort Green Place, Brooklyn, N. Y.**

FARMS. **150** Delaware Fruit and Grain Farms, cheap. Catalogues free.
A. P. GRIFFITH, Smyrna, Del.

Rev. HENRY WARD BEECHER

SAYS OF

DR. TOWNSEND'S REMEDY

FOR

Hay Fever, Asthma, and Catarrh:

BROOKLYN, N. Y., Sept. 24, 1881.

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NOTE.—This wheat crop is reported on page 192, Annual Report (1883) of the NEW JERSEY STATE BOARD OF AGRICULTURE.

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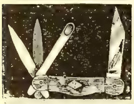

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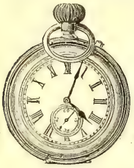

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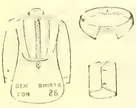

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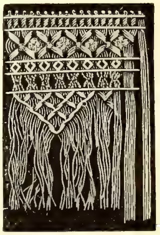

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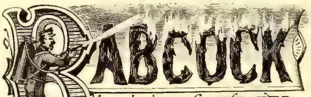

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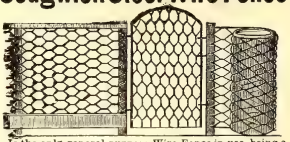

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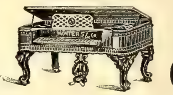

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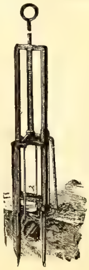

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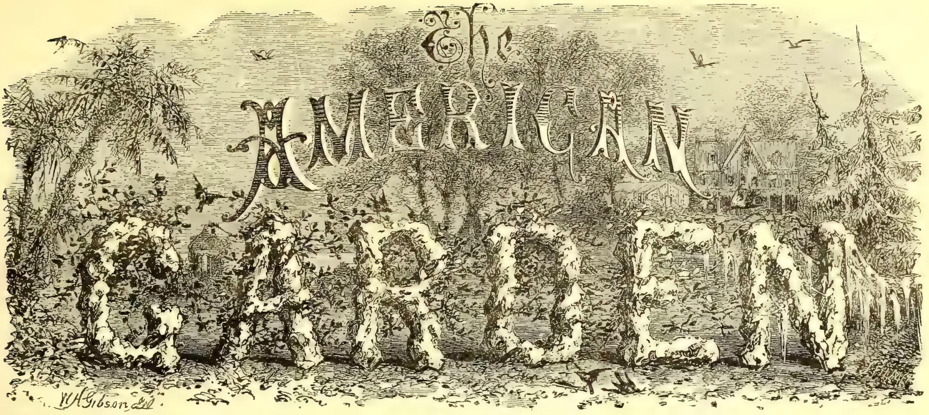

Vol. IV. NEW-YORK, AUGUST, 1883. No. 8.

The American Garden.

A MONTHLY ILLUSTRATED JOURNAL.
Devoted to the Gardening Interests of America.

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DR. F. M. HEXAMER, : : : Editor.

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THE AMERICAN POMOLOGICAL SOCIETY.

The attention of all those interested in the cultivation of fruits is earnestly directed to the meeting of the American Pomological Society, to be held in Philadelphia from September 12th to 14th. The meeting promises to be a grand one; and as this society was the first national organization of the kind in the world, and is as yet not excelled in usefulness by any now existing, it is the bounden duty of every horticultural society in the land to assist in the extension and promotion of its good work.

Kindred associations are requested to send as large delegations as possible, and all persons interested in the objects of the society are invited to take part in the discussions. The venerable president, the Hon. Marshall P. Wilder, writes us that he intends to be present in person. To see this noble man again, to speak with him, to shake hands with him, is in itself worth a long journey.

NEW VARIETIES.

The experience of every observant fruit-grower furnishes unmistakable proof that no one variety succeeds in all localities, nor is any one equally suited to all soils. It is therefore not surprising that the experiences of pomologists in different States should lead to varying conclusions.

In our last issue, Mr. J. B. Rogers, chairman of the fruit committee of the New Jersey State Horticultural Society, a most careful observer and excellent judge of fruits, reported on the newer Strawberries as seen by him in his State. That some of these varieties should behave very differently under different conditions is of course to be presumed, and in answer to some comments upon these notes we wish to state that in publishing individual reports we do not in any way indorse all the statements contained therein as applicable to the entire country. It is not the policy of THE AMERICAN GARDEN to show only one side of a question, and to lavish indiscriminate praise upon a favorite without also showing its short-comings, if it has any; and although we decline to make room for personal controversies, our columns are always open to unbiased statements of general interest.

On another page we give the results of our own experience with some of the newer Strawberries.

EXPECTATIONS EXCEEDED.

It is pleasing to note that THE AMERICAN GARDEN Premiums are appreciated by our readers and render them substantial help in beautifying their gardens. *A. C. R., Annville, Pa.*, writes: "From the package of Pansy seed I received from you last spring I had the finest bed of Pansies I ever saw. For two months it has been a perfect mass of flowers, and they have exceeded in beauty and size what we were led to expect from the description and colored plate."

WHAT THE PRESS SAYS.

THE AMERICAN GARDEN is one of the finest specimens of typography, and one of the best horticultural papers in the country.—*North and South.*

As an organ for general practical horticultural instruction, THE AMERICAN GARDEN stands unexcelled, a fact which will be admitted by any one who will give its pages a careful and impartial examination.—*National Baptist.*

THE AMERICAN GARDEN is always delightfully fresh and interesting in its talk about the garden. Every person who has even an apology for a garden should subscribe for this valuable paper. Its illustrations and "Seasonable Hints" are invaluable to the professional or amateur gardener.—*Good Farmer.*

THE AMERICAN GARDEN.—This excellent monthly publication ought to find its way into every family where there is a love of flowers, fruit, or vegetables, or where any of these are cultivated. Many of its articles have illustrations of beautiful specimens of fruit and flowers. We fancy the answers to correspondents and the advertisements of choice varieties of flower and vegetable seeds, will prove as great an attraction to the readers as any department in the magazine.—*Bath Daily Times.*

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The Vegetable Garden.

SEASONABLE HINTS.

Manuring Growing Crops, especially those which at the time of planting were manured in the hills or drills, is of more benefit than most cultivators are aware of. It is frequently observed that crops which have been growing vigorously come suddenly to a stand-still, without any apparent cause. But, when it is considered that the roots of these plants which have been feeding within the narrow circle of enriched soil, are now forced to seek sustenance in comparatively sterile ground, the cause may readily be accounted for. In all such cases small applications of guano, superphosphate of lime, or "complete" or "universal" fertilizers, scattered over the surface, and raked or harrowed in, have generally a surprising and, if the application is made just before a rain, almost immediate effect.

Saving Seeds.—We have frequently pointed out to our readers the importance of a careful selection of seeds for sowing. Hundreds of cases could be cited to show how important and permanent improvement in varieties have been produced by continued careful selection. All the experiments made at the New-York Agricultural Experiment Station tend in this direction, and lead Director Sturtevant to the following statement:

"There is no one factor which is of more importance to the farmer in increasing his crop than this one of the quality of the seed used, and fortunately all the experience we have indicates the great power that man has, through a judicious selection, in changing for the better the properties of the seed that he uses. As between a distinctively good seed and a distinctively bad seed there may be a difference of double the crop harvested, and in some classes of plants the difference in the value of the crop harvested may be manifold. A market gardener, to whom perfection of form in his crops is of the utmost importance, cannot afford to use seed of unknown quality when seed of known value can be purchased even at a quite high price. The farmer who is careful to save the best seed is thereby certainly obtaining crops at a less cost than if he were entirely careless in this direction. To save the best seed under any carefully pursued system must be a gain upon the use of no system at all, but unfortunately at present we cannot say in all cases just what system will give the best results. The experience of Hallet with wheat gives strong indication that selection from the plant is very far superior in potency to merely the selection of the plumpest kernels by means of the screen.

"The principles which now seem worthy of recommendation in the improving of seed are selection from the plant, prevention of cross-fertilization or hybridization, and the careful selection from the product thus obtained."

Lima Beans should be pinched off at about six feet from the ground in order to produce side shoots. Seed Beans should never be allowed to grow on vines intended for late bearing, as they diminish the productiveness considerably. When seed is desired, it is a better plan to set aside a few poles exclusively for this purpose, and to select only the first ripening pods for this purpose.

SWEDES FOR THE GARDEN AND FARM.

Old farmers may not recognize under the name of Swedes a familiar friend which they used to know as Ruta-bagas. The more modern and improved vegetable is finer grained, smoother, and not so rank in the Turnip flavor as the old-time Ruta-baga.

Swedes are among the most productive crops which can be grown on the farm, and require less labor than any other root, flat Turnips excepted. They contain several per cent. more of nutritive matter than Turnips, and on this account are more valuable for feeding. Live stock will eat them greedily when sliced in a root-cutting machine, but will scarcely eat them at all if fed whole, as they are too hard and solid for them to break or sever with their teeth. The improved Swedes may be fed to milk cows in small quantities without tainting the milk perceptibly, especially if they are fed to cows before other food is given. For feeding stall-fed animals in connection with meal, they are exceedingly valuable. Breeding sows have been wintered at "Kirby Homestead" exclusively on Swedes sliced in a root-cutter, at the rate of a bushel for six hogs at one feeding, and they have done well. This is the cheapest food upon which hogs have ever been wintered by me. Putting their value at twenty-five cents a bushel, which is a fair price, it will be seen that the cost of wintering hogs may be reduced to a very small sum.

The young Swedes are more liable to be destroyed by the Turnip fly than other varieties of Turnips. This fly seems to have a particular fondness for the young plants, and to obviate their ravages, it is best to start the crop early in the season, about the time of planting corn or soon afterward, which in this latitude is about the first of June. They may, however, be planted successfully as late as the beginning of August. The finest crop I ever raised was on a clover sod, after the hay had been harvested. Experience teaches that they must be planted either early in the season, or late, to avoid the Turnip fly, which is most abundant and destructive the latter part of June and fore part of July. The late planted are best for table use, as they are usually smaller and more tender.

Swedes should always be grown in drills, as they will not mature when sown broadcast. They require to be cultivated, or, in other words, to have the ground stirred about them and kept mellow to make good bottoms. They must also be thinned in the rows, or else they will grow all to tops and be a failure. They should stand at least a foot apart in the rows to insure good size. The ground should be well fertilized with finely rotted manure, prepared by previously putting it in a heap and forking it over two or three times. Coarse manure is not suitable for root culture, as it tends to make the roots grow irregular in form and spreading. On this account cow dung, free from litter, is best adapted for their growth, and also because it retains moisture better than that from the horse stable. A small amount of phosphate scattered in the furrow will give the Swedes a good start and help their growth. The plan of spreading the manure broadcast on the ground and plowing it under is preferable to making furrows and scattering it in them.

My plan is to plow the ground deeply, and harrow it until it is reduced to a fine tilth; then mark it out into straight rows with a corn marker, and sow the seeds with a drill in the bottom of these marks. By using a cultivator with only one flange or wing on the hind teeth, and the teeth turned inward, the young Swedes may be cultivated as soon as the rows can be seen. A cultivator should be used often enough to destroy the weeds and keep the ground mellow. It is best to use plenty of seed, making allowance for plants which may be destroyed, as they can be easily thinned out by striking the hoe across the row and cutting them out for the space desired. Two pounds of seed are abundant for an acre. Owing to the protection of the tops, Swedes may be left in the ground until the frosts become quite severe. Like Turnips, they grow fastest when the weather is cool.

Some farmers have been quite successful in growing Swedes with their Corn, by sowing a few seeds in each hill. They will do well in this way when the Corn is manured in the hill or the ground is very rich, making most of their growth after the Corn is cut up. They will not succeed in this way, however, unless the Corn is kept clean and well cultivated.

Swedes may be pitted in the field, and will come out fresh in the spring, and will also keep in good condition until midsummer. They are the best keeping roots the farmer can grow, and can be produced at a cost of less than six cents a bushel, and, when successful, an acre will yield from fifteen to twenty tons. F. D. CURTIS.

FILL UP THE VACANT SPOTS.

Most garden soils have been made rich and strong, capable of producing two or three crops of Lettuce, Radishes, etc., each season. Yet it is very often the case that after taking off this first light crop, the space so used is allowed to remain idle, or, rather, to grow a good crop of weeds, with a few plants of the first crop going to seed. We cannot well afford to lose the use of valuable ground in this way, not to mention the extra drain upon its fertility, caused by ripening seeds.

Such spaces should be filled up with some vegetables that will still have time to mature before cold weather sets in. Cabbage intended for winter use may be set out even as late as August, where such vacancies occur. Early Peas and Lettuce may also be sown, which will keep the table constantly supplied and add greatly to the value of the garden. When the first early Potatoes have been taken off, the patch thus made vacant will be in fine condition for Ruta-bagas or Turnips. Turnips may also be sown between the rows of Sweet Corn, after the last hoeing, and as soon as the Corn has been picked off, cut up the stalks and feed them out, instead of leaving them to draw upon the soil, when no benefit can be realized by leaving them longer. If you still have any vacant space that you do not know what to do with, sow some of the Onion seed left from last spring's seeding thickly in drills, and leave them over winter, so that you may have your own "sets" in the ground all ready to grow when the snow goes off. Salsify, or Vegetable Oyster, may be grown in the same way.

There is no other spot upon the whole farm that will yield so much toward the sustenance of the family as the garden, when properly managed. W. D. BOYNTON.

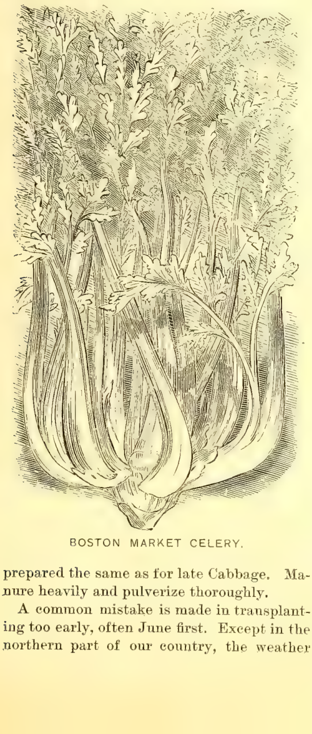
CELERY.

Celery requires a cool climate. South of the fortieth parallel, the climate is too warm for the best production of this toothsome vegetable. As we approach the great lakes, we find the temperature becoming more suitable for Celery, and by the time we reach them we find it all the gardener could desire.

Celery needs a cold, heavy, deep, very rich soil. The soil must be made of this character artificially, if it is not so naturally, to raise Celery profitably. The ground must be well manured; that is, a great plenty of fertilizers must be used, as the plant is a greedy feeder, and there is very little danger of getting the land too rich. Any good manure is suitable for it; but nothing equals barn-yard manure well worked over.

The old system of cultivation in trenches has been abandoned by the most progressive gardeners. It was troublesome and expensive, and it has been found that fully as good results could be attained by surface cultivation. But along the fortieth parallel, and south of it, Celery cannot be bleached in the open ground, as is done in colder countries. The climate is too warm for this, and when attempted, the stalks scald and rot.

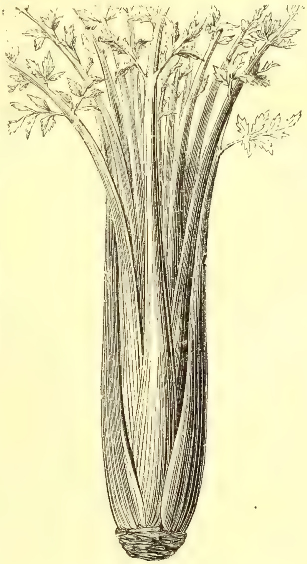
Celery should be sown in the seed-bed in the spring, as early as the ground can be brought in condition for seeding. The ground should be thoroughly pulverized, and the seed sown in rows twelve inches apart, either by hand or with a seed drill Most gardeners prefer to use a drill, and undoubtedly the best results are attained by its use. Great care should be taken to use only first-class seed. Celery is a delicate plant, slow and weakly to start, puny and slow-growing. From the seed-bed it must be transplanted to the growing-bed. This last bed should be prepared the same as for late Cabbage. Manure heavily and pulverize thoroughly.



BOSTON MARKET CELERY.

A common mistake is made in transplanting too early, often June first. Except in the northern part of our country, the weather will be too hot to bleach Celery grown so early, at the proper time. It is the better plan to transplant late, say from the middle of July to the beginning of August.

In setting out, be careful to press the dirt firmly around the plants. The benefit of this is greatest in a dry season, but important at all times. Do not plant too deep. This is a common error. The soil should not cover the crown of the plant. Plant in rows three feet apart, putting the plants six inches apart in the row. After planting, keep clean with plow or hoe till the first or middle of September. Then it must be "handled."



SANDRINGHAM CELERY.

The handling process is simple. Hold the Celery compactly in one hand, and bring the soil up around it with the other to hold it upright and close together.

The next operation is bleaching. It can be bleached in the open ground by banking the earth up around it with a spade till it reaches the tops of the leaves. This should be done about the first of October. But bleaching in the open ground is hardly advisable in this climate. The weather in October and November is too hot. During these two months it is no uncommon thing for the temperature of the air to reach 90° Fahr., and at such a temperature Celery, bleaching in open ground, will rot. It is a better plan to handle it, and then leave it till it is dug up for winter use.

After handling late Celery, the earth can be drawn up around it with a hoe to prevent its freezing. It will stand considerable frost if soil is around it. In this condition it can be left in the ground till November 15th, or later. The later it is left in the ground the longer it will keep; therefore, Celery for spring use should be left in the ground till very late.

This brings us to the process of storing for winter use. Dig a trench as deep as the Celery is high, and the narrower the better, say eight inches in width. Dig up the Celery, keeping a little dirt fast to its roots, and pack it in the trench in an upright position, just as it grows. Leave it in this shape till the latter part of December (the time depending somewhat upon the severity of the weather), when a light covering of straw should be put upon it, and more covering added later, as is required to keep it from freezing.

Some gardeners construct "Celery houses." These may be built above ground, or dug down a foot below the surface. The house need not be an expensive affair.

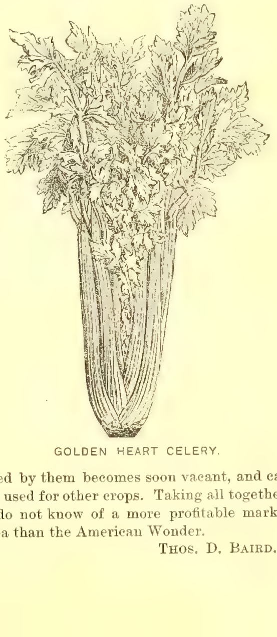
JOHN M. STAHL.

EARLY MARKET PEAS.

The three great points in a Pea for the market are earliness, dwarfish growth, and productiveness. To determine the relative value of the most reputed kinds, I planted, on the 3d of March, side by side, one row each of American Wonder, Premium Gem, and Little Gem. All received exactly the same treatment and cultivation.

The last spring having been cold and backward, the Peas did not come up till March 31st, and all were in bloom on the first of May. On May 16th, the American Wonder were eight inches high, and averaged four edible pods to the vine; while the Premium Gem were fifteen inches high, and averaged only two pods (and these not as large) to the vine. None could be picked of the Little Gems before the 20th, when they averaged about one pod to the vine. On the same day, we picked of the American Wonder an average of twenty pods to the vine.

This test fully convinces me of the great value of the American Wonder. But in addition to its earliness and productiveness, it has the advantage that it can be planted in rows one foot apart, and will do as well as taller growing kinds at three times this distance; and also, that its entire crop can be harvested in a few days, while sales are active and prices high. Thus the ground occupied by them becomes soon vacant, and can be used for other crops. Taking all together, I do not know of a more profitable market Pea than the American Wonder.



GOLDEN HEART CELERY.

THOS. D. BAIRD.

The Fruit Garden.

SEASONABLE HINTS.

Strawberry Planting in Summer.—The difficulties of making newly set plants live at this season of extreme heat and frequent drouths have led to the use of potted plants, the manner of starting which we have described in our last number. With ordinary care in planting, not one in a hundred of potted plants need fail; and if the ground is rich and in good condition, with proper cultivation during summer, nearly a full crop of berries may be obtained from the plants next season. Many of the prize berries at the late New-York Horticultural Exhibition were raised on potted plants set out last August and September.

Paper boxes may, in the absence of pots, be used to good advantage, as is shown by the experience of one of our readers, who says:

"Last year, wishing to pot more plants than I had pots for, I took thick wrapping-paper, cut it in strips ten inches long and four wide, lapped the ends and pinned together; then folded twice, to form the corners, at each of which an incision of one and a half inches was made. The flaps thus produced were folded and doubled, so as to form the bottom of the box, and pinned together. These boxes answered the purpose very well, and lasted till the plants were established enough to be taken up. I have since used similar ones for Tomatoes and other plants."

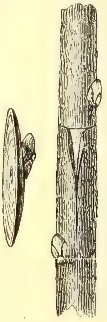
Potting in Frames.—When it is not convenient to pot plants in the field, a modified plan may be pursued, by taking up the young plants carefully—on a cloudy day, if possible—and planting them in small pots. They are then plunged in sand or soil under the shade of a tree, and watered when necessary; in about three weeks they may be transplanted like ordinary potted plants. Our correspondent, Mr. L. B. Pierce, mentions a nurseryman living in a town, and having his Strawberry beds two miles from home, who fills large cold frames with plants thus potted. These plants are invariably better than those potted in the field, as they are constantly under the eye of the grower, can be shaded when desired, and never suffer from want of water.

Ground-layers, when transplanted in summer directly in beds, should be protected from the sun, at least during the first days after transplanting. Nothing is better for this purpose than a small, very leafy branch of a tree, stuck in the ground south of each plant, so as to shade about a square foot of soil. This gives sufficient shade, and the withering and dropping leaves gradually admit more sun as the plants grow stronger and require less shade.

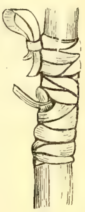
Grape-vines, especially varieties with thin, tender leaves, should be frequently examined, and as soon as *mildew* makes its appearance, which occurs about this season, "flowers of sulphur" should be used without delay. This is very fine pulverized sulphur, obtained by sublimation, and is best applied with bellows made for the purpose. It is important that the entire vine is dusted over, as soon as the first signs of the trouble appear, and that the operation is repeated as often as occasion may require.

PROPAGATION BY BUDDING.

Budding is a favorite method with nurserymen for rapidly multiplying distinct varieties. Although the time in which it can be successfully performed is quite limited, the possibility of making a tree from every bud makes it the most feasible method of increasing rare and choice fruits, etc. The season for budding is usually midsummer or early autumn. When the sap appears too watery, as it sometimes does early in the budding season, the operation should be deferred until later, when the sap thickens and is depositing its annular ring of pulp or woody fiber immediately under the bark, and the implanted bud unites more readily and incorporates its growth with the stock.



TRANSVERSE CUT AND SLIT AND BUD READY FOR INSERTION.

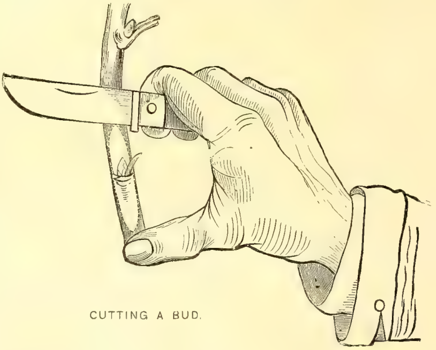


BUD INSERTED AND TIED.

The buds are taken from the current season's growth, and may be used as soon as fully developed and sufficiently ripened.

The stocks should be gone over a few days previous to inserting the buds, and all side shoots and sprouts removed for a few inches above the ground.

A transverse cut is made at a smooth place on the stock, and a perpendicular cut or slit downward from this, for a distance of an inch or more, the corners of the bark being slightly elevated with the point of the knife.

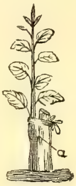


CUTTING A BUD.

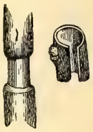
Then taking the stick or young shoot of buds of the variety to be multiplied, the operator enters the knife above and brings it out one-half inch below the bud or eye. Into the opening previously made in the stock, this bud is now inserted and pressed downward under the bark; then tied, by passing strings of bass bark or cotton yarn around the stock, thus pressing the bark closely over the bud. The ligature must not, however, be allowed to press, or rest, on the eye of the inserted bud.

In ten days to two weeks the ties are removed by cutting or unwinding, when most of the buds will be found united with the stocks. With buds that may have failed, and be found shriveled up, the operation is immediately repeated on a fresh portion of the bark, so as to leave no blanks. When the stocks are in rapid growth, it is often necessary to unwind the ties earlier to avoid injury of stock or bud by strangulation, and if the bud has not fully united it is tied again.

In early budding the stocks are often headed back at once after the buds have taken, thus forcing the growth of the inserted bud immediately; but in later budding the heading back is deferred until the following spring. This heading back is accomplished by a clean cut opposite the inserted bud, severing the stock immediately above it. Some persons advise leaving several inches of the old stock as a support, to which the young shoot is tied, removing after a time by a second cut opposite the bud; but this is not necessary in most cases.



BUD-GROWTH TIED TO STUMP OF OLD STOCK.



RING BUDDING.

All sprouts must be removed as they appear on the stock after it is headed back, so as to throw the growth exclusively into the inserted bud; otherwise, the bud will never push, and will finally die out.

In Vance's method of budding, the bud is inserted where a bud has been cut out of the stock, which is theoretically the place for the bud, but practically an operation troublesome to perform and of doubtful advantage.

On some stocks the bark "will run" when the leaves unfold in the spring; working them at this time is called spring budding. Buds are taken from the young growth of the previous year, which have been kept moist and dormant in an ice-house. These often make a strong growth, and buds from this growth may again be used for fall budding. By this double working, a variety can be multiplied very rapidly.

Ring budding is accomplished by taking off a ring of bark from the stock one-fourth inch wide, more or less, and replacing it with a similar ring containing the bud of the variety to be propagated. This method, although offering no material advantage, for general purposes, over those already described is in some instances, especially with grape-vines, used successfully by some propagators.

—J. JENKINS, *author Art of Propagation.*

THE NEWER STRAWBERRIES.

On our grounds in the vicinity of New York, on rather heavy clay soil, the Strawberry crop was very good, and most of the new varieties proved satisfactory.

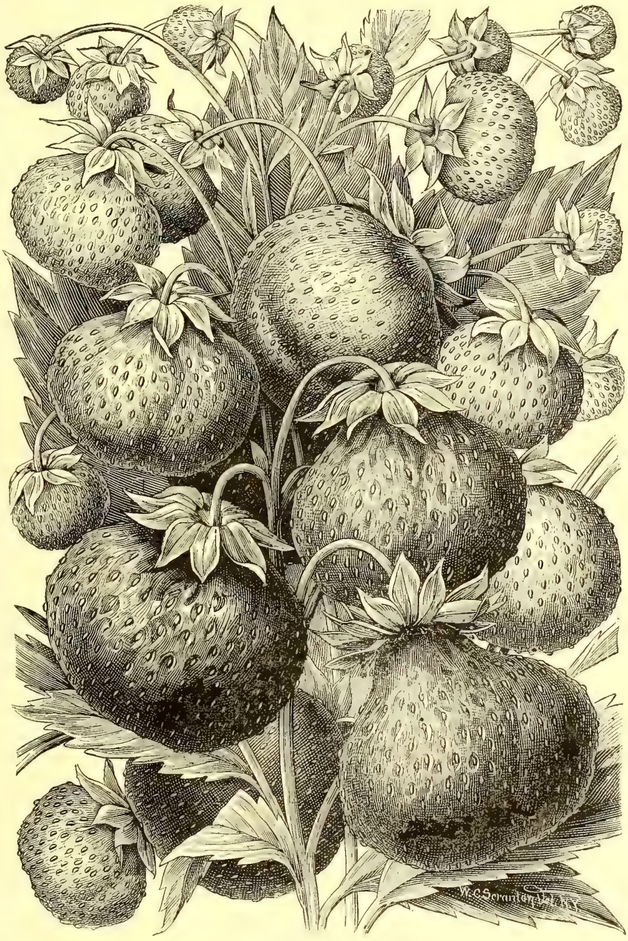
Manchester improves by longer acquaintance. With us the plant is very vigorous, foliage healthy; the berries are larger, lighter colored, and of better quality than those grown in the Jersey sands.

James Vick has been grown in a trial bed together with Captain Jack. The two kinds are not identical. Although they resemble each other in general appearance, the James Vick is decidedly the best of the two: its foliage is larger and more vigorous; its berries are larger, very firm, of more sprightly flavor and generally better quality, and are borne on longer, stiffer, upright fruit-stalks, not hugging the ground like Captain Jack. How a Strawberry plant can be more productive than the James Vick is not easily imaginable.

Jersey Queen made but a poor growth.

Sharpless, although of indifferent quality and not ripening well at the tips, has in its favor largest berries, very large, healthy foliage and, under favorable conditions, great productiveness.

Bidwell has been very satisfactory for home use, producing a large crop of good-sized, well-shaped, and good-flavored berries. Both in hills and matted beds, the plants wintered remarkably well during the last two winters, without protection.



PRINCE OF BERRIES STRAWBERRY.

PRINCE OF BERRIES.

The accompanying illustration conveys a good idea of this new claimant for popularity. Mr. E. W. Durand, its originator, who has probably raised more seedling Strawberries than any other living man, considers it the best of all the thousands of new varieties produced by him. It has, so far, not been grown outside of the originator's ground; we can, therefore, not speak about its merits from personal observation, and give Mr. Durand's description:

"Superior to any berry known in flavor or quality, brilliant and beautiful in color, abundant in bearing, large size, texture exceedingly fine and melting, no hard or unripe spots or tips, coloring evenly and perfectly, unsurpassed as a carrier and keeper, invariably perfecting its large crop of fruit, desirable in form, perfect in blossom, never scalds either in foliage or fruit, remains a long time on the vine without injury, a vigorous and luxuriant grower, a superb plant, and a reliable fertilizer for all late pistillate varieties, the very best as an accompaniment to the Jersey Queen, possessing such determined, hardy qualities as will undoubtedly make it a success in all sections under the variations of soil, climate, etc., etc. The Prince of Berries, being one of the very latest, generally escapes the late frost, so fatal to the early varieties, affording protection by its heavy, stocky foliage."

BAGGING GRAPES.

Within a few years, the bagging of Grapes has occupied the attention of many horticulturists. One who has given much attention to this subject, says: "If the application be made in time, the paper-bag will preserve the cluster in more exquisite perfection than can be secured in any other way. The Grapes come forth luscious and beautiful enough to amaze Nature herself."

When to bag.—The only safe rule is to apply the bag as soon as the cluster is formed. If delayed too long, the spore of disease may have attached itself to the berry and result in rot. Some have applied the bag before blossoming has taken place. As the new shoot is very tender and brittle, great care must be exercised not to break it.

How to bag.—Take manilla or any other paper bags; cut off the upper corners, in order to wrap the upper portion around the cane; place the cluster inside the bag, wrap the bag around the cane, and then pin it.

Size of bag.—This depends upon the usual length of the cluster, and whether more than one cluster is placed in a bag. A two or three pound bag is sufficient for most single clusters.

Results of bagging.—The cluster will average larger, ripen later, color in general better, produce larger berries, and the bloom will be preserved more perfect than in those not bagged. As to flavor, opinions vary. Some think it is better, others that it is not improved.

Bagging as a prevention of rot.—If applied early enough, it is a prevention. Rot is found in some cases in the bags, but mostly takes place after the Grapes are ripe.

Bagging as to the splitting of the Grape.—Many of the thin-skin varieties split badly in the bags. The Elvira, which, out of bags, splits so badly as to be comparatively worthless, owing to the crowding of the berry in the cluster, also does the same in bags.

The Duchess keeps its color when bagged; Delaware, as a general rule, becomes deeper; Brighton lighter in color, Niagara improves in color and flavor.

The present summer many will bag Grapes by way of experiment. It is doubtful if bagging will become general in vineyard culture, as the extra expense incurred thereby is not made up in the sale of the fruit. To the ordinary purchaser of Grapes in the market, fine clusters, large berries, pure color, and bloom, and exquisite flavor are secondary considerations. To the amateur, or those who enjoy to sit under the shade of their own vines, however, these qualities are precious; and, as the experiment with a few bunches requires but little time and expense, it is well worth a trial of those who grow Grapes for their own use. J. B. Rogers.

The Flower Garden.

LITTLE ROSE.

She comes with fairy footsteps—
Softly their echoes fall—
And her shadow plays like summer shade
Across the garden wall.
The golden light is dancing bright
'Mid the mazes of her hair,
And her fair young locks are waving free
To the wooing of her hair.

Like a sportful fawn she boundeth
So gleefully along;
As a wild young bird she caroleth
The burden of a song.
The summer flowers are clustering thick
Around her dancing feet,
And on her cheeks the summer breeze
Is breathing soft and sweet.

The very sunbeams seem to linger
Around the holy head,
And the wild flowers at her coming
Their richest fragrance shed.
And oh! how lovely light and fragrance
Mingle in the life within;
Oh! how fondly do they nestle
Round the soul that knows no sin.

She comes—the spirit of our childhood—
A thing of mortal birth,
Yet bearing still the breath of heaven
To redeem her from the earth.
She comes in bright-robed innocence,
Unsoiled by blot or blight,
And passeth by our wayward path,
A gleam of angel light.

Oh! blessed things are children—
The gifts of heavenly love;
They stand betwixt our world-hearts
And better things above;
They link us with the spirit-world
Of purity and truth,
And keep our hearts still fresh and young
With the presence of their youth.

—*Blackwood's Magazine.*

SEASONABLE HINTS.

Watering Plants. — Many persons water their flower-beds in the manner city venders expose their fruits to the view of the public. The inviting barrels of Apples and Pears we see at their stands are rarely full, but consist simply of an empty barrel, with a layer of selected fruits neatly arranged on the top of it. These specimens are re-arranged and polished every day, so that the stock looks always fresh and replenished. For the looks of it, this may do well enough, but for use one would prefer a full barrel, even if it were not so nicely topped off.

Now, the sprinkling of a little water over the surface of a flower-bed, once or twice a day, to give it the appearance of being watered, does the plants about as much good as that sham apple barrel would to a hungry crowd. Not as much, in fact, as none of the water thus applied reaches the feeding roots of the plants.

Water, to be of any benefit in a dry season, must be given in quantities sufficient to saturate the entire soil to the depth the roots descend. Such a soaking, given once or twice a week, is sufficient for most flowering plants; and where water is not easily obtainable, frequent stirring and loosening of the soil is preferable to frequent sprinklings.

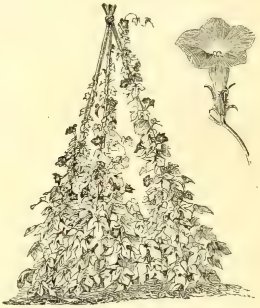
Sub-tropical Plants, to produce a rich effect, must be well fed, and nothing is more relished by them than frequent applications of liquid manure.

WHAT ROSES TO PLANT.

A common error committed by beginners in Rose culture is attempting to grow varieties that are of delicate habit; attracted by great beauty of flower, or fragrance, they do not consider, or do not understand, that vigor of growth, perpetuity of bloom, perfect hardiness are very seldom combined with the qualities which have allured them.

The most popular Roses are the Hybrid Remontants; these are moderately hardy, and produce flowers of the highest finish. Among them none are more desirable for tyros than *Alfred Colomb*, *John Hopper*, and *General Jacqueminot*. These three varieties probably absorb more of the desirable features that go toward making the perfect Rose than do any others which could be named; they blend well, and are very effective planted in a bed together or separately.

A pleasing departure from the usual method of growing Roses is found in the pegging-down system. In this way the long shoots are carefully bent down, and fastened to the ground by means of hooked sticks or pegs. As a result of this system, an immense quantity of blooms is produced. True, the individual flowers are not of equal finish to those grown in the ordinary way, but we get a mass of color, a striking effect, that is not otherwise to be had. I do not advocate this method to the exclusion of the other, but its occasional use will certainly be satisfactory.


IPOMŒA HEDERACEA.

Besides planting Roses in beds, we should scatter them through the borders of our gardens, giving the more favored positions to the delicate kinds. Among these we find *Eugenie Verdier*, the most beautiful of the Victor Verdier type, a Rose of very delicate tint, —deep silvery,—pink tinged with salmon; lovely in the bud and in the open flower; attractive as maid or matron. Not only the flowers, but the foliage of this variety is most pleasing. Another variety which is beautiful in both flower and leaf is *Charles Lefebvre.* This has the thick texture of petal, and something of the same form as *Eugenie Verdier*, but the color is that of *General Jacqueminot*, deepened by a shade of satiny-purple.

Among the somewhat neglected Roses are *Marguerite de St. Amande*, a deep pink, beautiful in the bud state, and flowering through the summer and autumn months. *Baroness Rothschild*, a blush-pink, with exquisite cup-shaped flowers; single blooms of this kind, during December and January, sell in New-York for one dollar, and even two dollars each. It has always been a great favorite with exhibitors. *François Michelon* is a striking variety, intermediate in character between its parent *La Reine* and *General Jacqueminot;* it has large, deep rose-colored flowers varied with lilac, of splendid globular form. A valuable feature is its late blooming, the flowers not developing until most others of the same class are past their prime. *Elise Boelle* is perhaps the finest white Rose that we have; it blooms profusely all through the summer; has full globular flowers, of the most perfect form; the center is generally tinged with blush. It is not possible to imagine a flower of greater beauty.

Moss Roses have long been favorites in our gardens, but it is wonderful how many inferior varieties are grown; sorts are disseminated that are not mossy, are not beautiful. None of the Moss Roses will compare with those of other classes as regards the open flowers. It is the fine buds that make them so attractive, and if a Moss Rose has not a well-formed bud it is worthless. The best of the Mosses are *Gracilis*, *Crested*, and *Common*, a triad whose crested loveliness has a common grace.

Not one of the least of the qualities we desire in a Rose is fragrance. In this regard all classes must do homage to *La France*, the sweetest of all Roses. Compelled to choose one variety, this should be ours. To be sure it is rather tender, but it can easily be protected, and so winter safely. It does not always open well, but it is a simple matter to assist,—an operation not practicable with most varieties that do not open perfectly. If *La France* does not develop well, by pressing gently with the fingers the point of bloom, and then blowing into the center, the flower will almost invariably expand, the pent-up fragrance escape, and almost intoxicate with delight our sense of smell.

Not enough attention is given to the Tea Roses and Bourbons. The Hybrid Remontants justly claim our first attention when they are in their perfection; but after their first blooming is over, throughout July, August, and September, they are much less attractive than many monthly Roses. Varieties like *Bougin*, *Gerard Dubois*, *Homer*, *Sombreuil*, *Madame de Vatry*, *Marie Van Houtte*, *Madame Caroline Kuster*, will give a continuous supply of flowers throughout the summer and autumn.

The fact of Tea Roses being tender should not debar us from their culture; the truth is, they have in this matter been abused. The sorts I have named are in reality but little more tender than *La France*, the Hybrid Noisettes, and all the *Victor Verdier* race of Hybrid Remontants. If earth be hilled up about the plants, and then a slight covering of some loose material, like branches of evergreens, be given, the hardier sorts of monthly Roses will winter in safety. There is sometimes a loss of plants, but the percentage is light, very little more than happens to the so-called Hardy Roses.

In giving this protection, care must be observed not to smother the plants by entirely excluding the air; this never occurs from the use of evergreen branches, but when straw or litter is taken, sticks or boards should be used to prevent the material matting together. This is one of the cases where it is possible to kill by mistaken kindness. If it be objected that this covering of the Roses is troublesome, then we must reply to the objector,—you are no true lover, you are but a false knight; you cannot have beautiful Roses in your garden, because you have not them in your heart.—*H. B. Ellwanger, before the Western N. Y. Horticultural Society.*

IPOMŒAS.

The genera *Convolvulus* and *Ipomœa* comprise many of our most popular annual climbers. The most familiar example is the Morning Glory, which is emphatically a flower of the people, and than which to-day, in spite of "novelties," no better plant can be found for covering a trellis, or clothing fences, stumps, or rustic work where fine foliage and showy flowers are required. The culture is only to plant the seeds, which will usually sow themselves, and come up year after year.

Beautiful as are the Morning Glories, the *élite* of the family is found in the genus Ipomœa, the large-flowered species of which are also commonly known as Morning Glories, the difference between the two genera being very little.

The delicate climber known as Cypress Vine is botanically *Ipomœa Quamoclit*. It is a native of tropical America, loves heat and moisture, grows rapidly, and produces an abundance of flowers. In Brazil, the red-flowered variety covers the fences with its delicate foliage, brilliant with the starry flowers, and though the plant is an annual there, it is perpetually renewed from self-sown seed, and thus is virtually, in effect, a perennial. The seed is very hard, and, if planted on the border dry, is slow to vegetate; it should first be scalded, by allowing it to soak in a cup of hot water. When the water becomes cold, plant the seed, but never sow until the soil becomes warm; the last of May is early enough for the latitude of New York. We have been most successful in sowing the seed on the evening of a warm day; then fill a water-pot with almost boiling water, and give the earth a gentle but thorough drenching; the plants will often appear in thirty-six hours. The growth is very rapid, and by midsummer the graceful foliage will be a mass of flowers, red, white, or rose, according to the variety sown, and the plants will continue to bloom until killed by the frost.

Of large day-flowering Ipomœas, one of the best is *I. Learii*, which has very large rich blue flowers. It is a perennial, and until large does not bloom freely, and thus our northern summer is too short for it. There are others of the same class which are well worth growing at the South or in a conservatory, and *I. Horsfaliae*, which has great clusters of red flowers and palmate leaves, is one of the most brilliant of stove climbers.

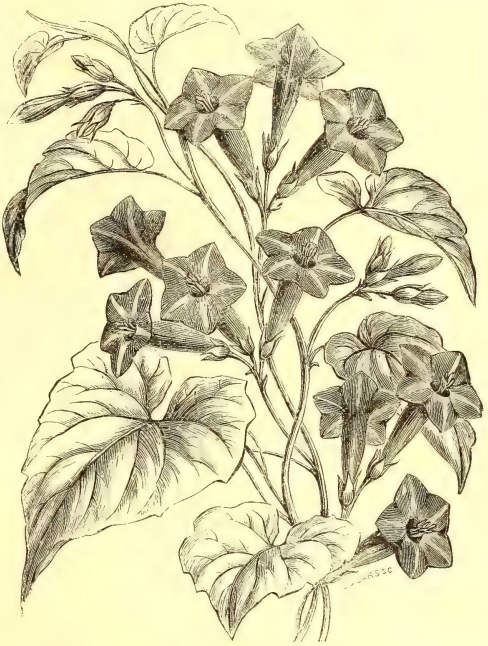
The large night-flowering Ipomœas of the tropics are very beautiful, the effect of hundreds of these flowers, which are pure white, deliciously fragrant, and often a foot in circumference, opening in the soft radiance of the tropic moonlight, can be better imagined than described. These species, if brought forward in pots and planted in a warm situation, would doubtless give flower before frost even in northern climes, as they are rapid growers and flower freely.

One of the prettiest of the family is *I. coccinea*, commonly called scarlet Morning Glory. It is a rampant climber, with smooth foliage, and is covered all summer with a profusion of starry orange-scarlet flowers. The plant known as Ivy-leaved Cypress Vine is a variety of *I. coccinea*, with delicate, ivy-like foliage. There is also a plant, probably nearly allied, with larger foliage and orange-scarlet flowers an inch in diameter, which we have seen in Brazil.

I. leptophylla is a hardy perennial species, introduced, a few years ago, from the Southwest. It has an immense tuberous root, half climbing stems, and rose-purple flowers.

There are also species with blue flowers and white margins, some with ivy-leaved foliage, and some have the leaves marbled with white. All are good, and Ipomœas should always find a place in the garden.

E. S. Rand, Jr.



IPOMŒA COCCINEA.

PREPARING FOR SPRING FLOWERS.

None of my neighbors have a spring flower garden. Several of them have fine summer and autumn gardens, but during all the spring months these grounds — that are a mass of bloom at midsummer — are quite bare or, worse, made unsightly by heaps of rubbish.

Now a little foresight and a small outlay of time and money at the proper season would insure as fine a display of flowers during the spring months as throughout the summer and autumn. And what flowers are so welcome, so beloved, as the firstlings of the year? The delicate Snowdrop that braves the winds of March; the cheery Crocus and modest Violet, that come with April; and the gorgeous Tulips that illumine the garden in May. Then there are the old-time favorites, the hardy herbaceous perennials; these, like the hardy bulbs, once established, will last for years.

The early flowers need not displace the bedding-plants that make so grand a display in summer, as they only occupy the ground until the tender plants can be trusted outdoors. Tulips and many other bulbs may be taken up when the leaves are ripened, or they may be left in the ground, and the bedding-plants set among them, removing the leaves as they wither, thus securing a succession of bloom from April until frost comes.

For me, the spring garden has more attractions than any other. It is so delightful, after the long dreary winter, to see the tiny green shoots piercing the brown mold, to welcome each little adventurer as it gets its head above ground, to watch and wait for each old friend. Dearer than any others are the special favorites grown from seed: the Sweet Williams, Delphiniums, Aquilegias, Canterbury Bells, Pinks, and Pansies, that we are longing to see in bloom once more as we long for the return of an absent friend.

He knows nothing about the true delight of the gardener who has not raised flowers from seed. If you have never tasted this exquisite enjoyment, try it immediately; it is not yet too late to sow seeds of perennials for next year's blooming. Begin now to prepare for the spring garden. Get some Sweet William, perennial Delphinium, Aquilegia, and Hollyhock seeds; sow them, and take care of them through the summer.

In October, set out a few hardy bulbs, such as Narcissus, Snowdrop, Crocus, Tulips and Hyacinths. But preparation for the beds should be made now, for although these bulbs will grow under various conditions, to show to their best advantage they should be planted in deep, light, rich, and naturally or artificially drained soil, well manured and dug over several times before planting.

Send for a catalogue of hardy bulbs, and you will be surprised at the variety and cheapness of these beautiful flowers. Then, next spring, when you are in the midst of your floral treasures and triumphs, take up your pen and write a few lines to The American Garden, that others may be induced to do likewise.

Jenny Dare.

VALUABLE HELP.

I have a journeyman gardener who attends to the insect department. He is an enthusiastic entomological collector. The amount of "bugs" he can take in during a day is surprising, and I think he devours very nearly his bulk in twelve working hours. He is commonly known as a toad. He works for nothing and finds himself, and I am never troubled with a strike. My fellow is quite familiar, and pays no attention to me; but throw down a dark whip-lash near him, and he, possibly thinking it a new kind of garter-snake, hops off as vigorously as though he were a member of some toad's athletic society.

T. D. E.

Lawn and Landscape.

MIDSUMMER FLOWERING SHRUBS.

Lilacs, Mock Oranges, Weigelas, double-flowering Almonds, Fringe-tree, and the host of early blooming shrubs, have done blooming for a season. The full heat of summer is upon us, and flowers are becoming fewer in our gardens; nevertheless, we have many plants, in several classes, still to draw upon for summer flowers. Ghent and Mollis Azaleas are past, but our native clammy Azalea, so white and fragrant, is at its best; and in shady places so is *Rhododendron maximum.*

Neither the common nor Alleghany White Alders *(Clethra)* have yet opened, nor has the Sorrel Tree *(Oxydendron arboreum)*; but the beautiful *Andromeda speciosa* and its glaucous-leaved variety are going out of bloom. The American Catalpa *(bignonioides)* is in perfection and very showy; the Japanese one *(Kæmpferi)*, a few days earlier, is not nearly so ornamental. *Kœlreuteria paniculata*, from China, has ample terminal panicles of small yellow flowers, and *Cladrastis Amurensis*, dull purplish-white ones. The Smoke Tree *(Rhus Cotinus)* is still a misty mass; the cone-like fruit masses of the Staghorn Sumach are assuming a crimson hue; Osbeck's Sumach will not blossom for a month to come; the Ailanthus flowers are dropping. The common Privet *(Ligustrum)* has done blooming, the *Ibota* species are laden with little clusters of white flowers, *lucidulum* has larger panicles, but they shall not be open for another week. The common Elder *(Sambucus Canadensis)*, by fields and waste places, is a mass of white flowers, and the red-berried one *(pubens)* displays its cymes of glowing red berries among vines and bushes in the thickets. Bladder Sennas *(Colutea)*, yellow and saffron-colored, are in full bloom, and, like *Rhodotypes kerrioides*, *Kerria*, Chinese Wistaria, and Rose-acacias will continue to yield a few flowers during the rest of the summer. *Calophæca Wolgarica*, not unlike the Siberian Pea trees *(Caragana)*, has many yellow blossoms. *Cytisus nigricans*, from southern Europe, has terminal spikes of very bright yellow broom flowers. *C. capitatus*, also a yellow but a less showy species, is at its best. The Wood-waxen *(Genista tinctoria)* is a yellow mass on dry and sandy soils, and *Sibirica*, larger and brighter, is its seasonable companion.

The Lead-plant *(Amorpha canescens)*, with woolly leaves and purple flowers, is hardly out yet; but *fruticosa*, a larger shrub, with dark, violet-purple spikes, is nearly past. The Tartarian and Japanese Bush Honeysuckles have done blooming, but the American species *(Diervilla trifida* and *sessilifolia)* continue to yield an ample share of modest yellowish flowers. But as vines, Hall's Japanese Honeysuckle and the scarlet Trumpet Honeysuckle are copious and showy. Although the Indian Currant and Snowberry bushes *(Symphoricarpus)* are in full bloom, they are less showy now than they will be later on, when they are in fruit. The Virginian Itea is laden with fragrant white racemes; wild Roses abound in meadows and swamps, the Prairie Rose is unfolding the many clusters on its arching shoots, and the red and white Rugosa Roses from Japan are dotted over with their lovely buds.

Hydrangeas that were wintered indoors are in bloom, but those that are out of doors are not in blossom yet, but *radiata* will soon be. *Spiræa callosa*, red and white, are in full bloom, so is Douglass's Spiræa, pink, and our common Meadow-sweet, whitish. The Siberian *Spiræa sorbifolia* still retains many of its white fleecy panicles; and *ariæfolia*, from Oregon, has airy, decompound panicles of whitish flowers. *S. Billardieri* and *Linneana* will not be in bloom for some time yet. The Burning Bush *(Euonymus atropurpureus)* is laden with small, dark, purple flowers, which, in fall, shall be succeeded by ornamental red fruit. The purple flowering Raspberry is blooming freely in rough and half-wild places, and the Carolina Allspice bushes continue to yield their dark purple, fragrant flowers. The Chaste Tree *(Vitex)* is opening its lavender-colored flowers, but the *Callicarpa* shall not display its little clusters of bluish flowers for a month or more. The shrubby Hypericums shall not show their golden, starry flowers for a week or two yet, but the shrubby Potentilla is in bloom. The sweet Bay Magnolia *(glauca)* has whitish fragrant blossoms, and the beautiful white-flowering Stuartias are passing out of bloom. The Button-bush has many heads of flower-buds, but none are open yet.

Althæas and Hydrangeas will be the pride of the autumn. But some shrubs are as handsome in fruit as in flower. *Eleagnus longipes*, from Japan, has a heavy crop of oval, ornamental, red fruits, that hang upon the bushes for several weeks after they begin to color. The Tartarian Bush Honeysuckles are handsomely furnished with berries, but not so brightly as is Morrow's Bush Honeysuckle. The Mezereon bushes, so sweet and gay with blossoms in earliest spring, is now decorated with bright red berries. WM. FALCONER.

THE LILIES OF THE FIELD.

Those who travel through the country at lightning speed, in railroad cars with closed shutters, or reading the latest paper or novel, can hardly be aware of the dazzling beauty of our "Lilies of the field" and of the important part they act in the coloring and brightening of lowland landscapes. Our native Lilies are now in their glory, and among them are found some of the most brilliant colors and most graceful forms of the floral kingdom.

The Orange-red Lily, *Lilium Philadelphicum*, is the earliest to flower; it is the upright red Lily of pastures and open wood-lands, and produces one, rarely two or three handsome red flowers, spotted with black.

The Yellow Lily, *L. Canadense,* flowers but little later. This is the species so common in most meadows and bogs, producing gracefully drooping yellow flowers spotted with purple, on stems two to three feet high.

The Turk's-cap Lily, *L. superbum,* comes still later, and is a truly superb plant, the tallest of our native species. The stem reaches a height of six to seven feet, and bears from thirty to fifty flowers in graceful, pyramidal racemes. The sepals are strongly revolute, bright orange, with numerous dark spots inside.

All these species grow well in gardens, and become greatly improved by proper cultivation, the plants increasing in size and number of their flowers.

The Window Garden
AND GREENHOUSE.

CARE OF HOUSE PLANTS IN AUGUST.

At this season of the year house plants require careful attendance to keep them in luxuriance for the window garden or conservatory, as they can never take care of themselves like their more hardy sisters of the outdoor garden.

The hard-wooded plants, such as Camellias, Azaleas, Myrtles, Correas, Daphnes, Heaths, etc., will be in a better condition by autumn if they can stand under glass which is shaded with whiting and water, mixed together like lime whitewash; but in small collections of house plants, where no glass is available, it is better to plunge the pots into the borders, selecting a partially shaded position protected from the hottest sunshine, as this is apt to injure the foliage, especially of Camellias, which grow in shady locations in their native habitat.

KEEPING WORMS OUT OF POTS.

Put a handful of coal ashes upon the earth in which the pots are plunged, to prevent the roots from striking into the soil, or a piece of brick may be placed under the hole at the bottom of the pot. This also serves to keep earth-worms out of the pots, which, however conducive they may be in fertilizing the fields and gardens, are decidedly injurious to potted plants. Therefore, it is never a good plan to plunge pots into the borders without taking these precautions to exclude worms. And even then they may enter the soil over the rim of the pot. But as soon as you perceive their presence, by the peculiar look of the apparently chewed-up soil, water freely with a solution of lime water, and it will both kill the worms and increase the luxuriance of the foliage of the plants.

It is not well to put stands of plants directly under the shade of trees, because insects are more plentiful there, and spiders, both white and red, will injure them sadly, and ants will ruin Abutilons and Fuchsias. Water them daily, but never let the water remain in the saucers of any plants.

CALLAS.

These, being semi-aquatics, form an exception, and like to have their roots wet or damp all the time. It is better, however, to turn the kegs or pots containing Callas upon their sides, under the shade of a shrub, and let the earth dry up until early in September; then shake the roots out from the soil, turn out all the earth, and supply its place with the richest, thoroughly composted potting soil that can be procured. The bottom soil of an old hot-bed, mixed with an equal quantity of sandy loam, will not be too heating for their tastes, as their fibrous roots revel in a sandy, moist, rich compost. When the leaves are growing well a dessert-spoonful of soluble Pacific guano, stirred into the soil once a month, increases the flower-buds greatly.

POTTING SOIL.

An excellent compost for potting window plants can be made out of one part of poultry droppings, four of garden soil, and one of gritty sand. Mix the whole in a barrel, and stir it up every week, until in September or October, when plants must be repotted or taken from the borders for winter flowering. Add one-third of this compost to two-thirds of garden soil, and pot the plants very firmly in it. Loose planting is a fertile source of failure in repotting plants. Press the soil about the roots with a small stick, or, better still, with your own fingers, the best implements God has given us. And true lovers of flowers can never consider their fingers too dainty to use them in the care of their plants in every possible way, any more than true mothers can object to give every needful attention to their children.

CUTTINGS.

August is the month to make preparations for window gardening, and to strike cuttings of all kinds of succulent plants, such as Begonias, Geraniums, Coleus, Achyranthes, etc., for their stems are filled with sap now, and tiny roots will strike out from the smallest cutting that is kept moist and warm. An experiment may also be tried with Geraniums by cutting through a branch two-thirds, leaving enough upon the main branch to let the sap circulate. In two weeks or so the white shoots will appear, when the cutting should be severed completely and planted in a small pot of sandy loam.

All cuttings strike more rapidly in saucers of sand, kept constantly moist, than in pots of earth.

I find it an excellent plan to break off slips from my flowers at this time, and plant them in a little sand, under large Rose bushes, or any shrubs which partly conceal the slips. The hose is played freely upon them every night when it is dry, and by the middle of September I have plenty of well-rooted plants for my window garden, or to give away to friends, who will gladly receive and treasure them carefully through the gloom of the winter.

LAYERING ROSES AND SHRUBS.

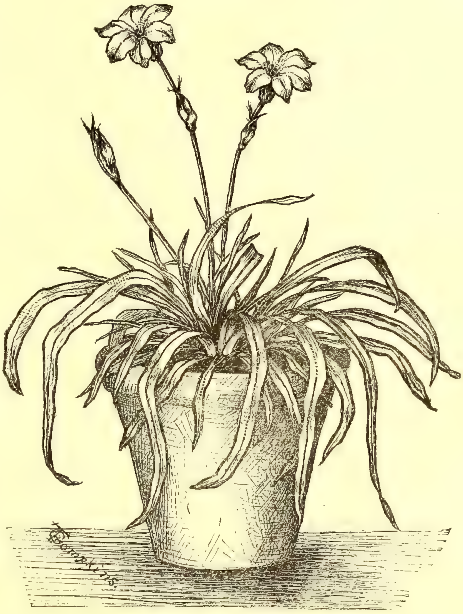
Now is also the time for layering Roses and delicate shrubs of all kinds which you may desire to propagate. Select a strong, luxuriant branch which is near enough to the ground to bend down easily, and to be pressed into the soil just where a bud will strike out roots. Dig away the soil a little, add some sand to it, press the branch firmly into it, cover it very lightly, and stamp the soil down with your boot-heel. Water it, when the day is dry, every night, and keep it closely in the ground, and in four weeks the branch may be cut off, taken up carefully, and planted out in border or lawn, or potted for winter.

The Chinese method of layering plants will sometimes work better than ours. A branch full of sap is selected and stripped of all the lower leaves,— which should also be done in the above process of layering,— and at a bud or axil of the branch, which will bend closely to the soil, a deep cut is made horizontally, through two-thirds of the branch, leaving two sharp tongues. A little gritty sand is sprinkled over the cut where it is placed in the ground, and a handful of cut grass or moss is laid over the top of it to keep it moist. When firmly planted it must be watered daily, and in three weeks it will generally have made enough growth that it can be detached from the main root without injury. Large hair-pins are handy implements for layering, as they can be placed directly over the branch of a Rose, Hydrangea, Clematis, etc., and hold it very firmly in the soil. Moss Roses may be increased readily in this manner, and large additions can thus be made to one's supply of many kinds of plants with very little trouble.

DAISY EYEBRIGHT.

TRITELEIA UNIFLORA.

This very handsome little liliaceous plant indigenous to South America, was first brought to Europe in 1836; but its good qualities were not generally recognized until quite recently. It is nevertheless possessed of considerable beauty and sterling worth, being a free and profuse bloomer in the house as well as the open ground.



TRITELEIA UNIFLORA.

From a small bulb resembling that of the Narcissus, a mass of long, narrow, dark-green leaves, slightly depressed along the mid-ribs, are produced, which when growing in a pot rise a little above the rim and droop gracefully over the sides. Several slender stalks about six inches long push forth from among the leaves, each bearing at its tip a single flower — from which the plant derives its name — an inch or more in diameter. The petals are bluish-white, shading to light-blue at the tip, and are depressed along the middle, making a slight convolution. The flowers remain in bloom a long time and follow each other in regular succession for several weeks, after which the leaves die down.

For house culture, from four to six bulbs may be planted in "six-inch" pots in a medium rich loam mixed with a small portion of sand, and single bulbs may be planted in three or "four-inch" pots. They may be potted at any time during autumn; and by keeping the pots in a cool place at first and removing them successively to the window or plant-room, flowers may be had all winter. After flowering, the bulbs should be taken out of the pot and kept in a dry, cool place until fall, when they should be planted in the open ground, as bulbs do not force well two seasons in succession.

For outdoor culture prepare a bed exactly as for Hyacinths or Tulips, plant the bulbs about two inches deep, and when cold weather sets in cover thickly with some light mulching material. As an edging to a bed or a border of Hyacinths or Tulips, they would be very appropriate, and if planted in a bed by themselves their modest beauty and the delicate fragrance of the blossoms cannot but be admired by all lovers of spring flowers.

IKE IVY.

HOT WATER AS AN INSECTICIDE.

Hot water, says a correspondent of *Gardening Illustrated*, is a clean, safe, and effective means of destroying green fly on pot plants. To the amateur whose stock of plants might be small, or who might not have accommodation for fumigating, it would be found a convenient remedy. There is a margin of many degrees between the lowest temperature that will destroy this insect and the highest that a plant will stand with impunity. One hundred and thirty degrees is a proper temperature, or as hot as the hand can be held in two seconds. The plant should be plunged into and withdrawn from the water instantaneously. The smaller body and more delicate skin of the insect is more quickly acted upon than that of the plant.

Should any one be afraid to employ the remedy, let him, if he has several plants affected, try it on one first, and the next day, when he sees that it has suffered no injury, he will have no misgivings about treating the rest in the same way.

WORMS IN FLOWER-POTS.

The common angle-worm may generally be removed by turning the ball out of the pots, or by a few applications of lime-water. The small white worms, or grubs, which frequently infest the soil of potted plants, are, according to our correspondent, *Mrs. S. P. H.*, quickly made harmless by an application of one teaspoon of liquid camphor in a pint of water. This will destroy them instantly; but as a preventive against the young broods the dose should be repeated once a week. Camphor water acts not only as an insecticide, but as a stimulant to the plants, which thrive splendidly under this treatment. It has been tried on Roses, Geraniums, Lilies, Begonias, Oxalis, Cactus, and other plants, with good success.

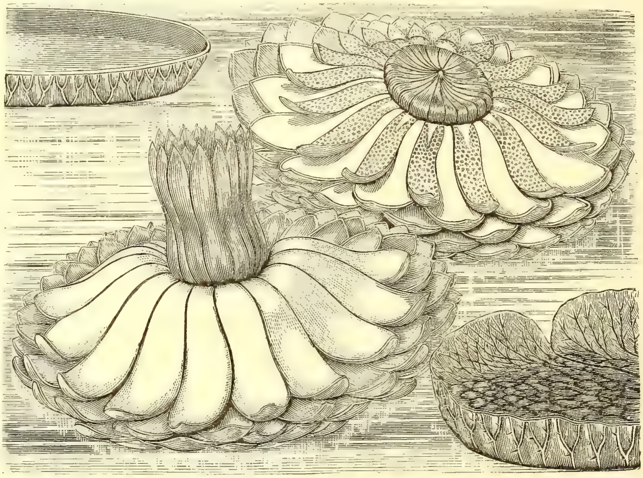
Foreign Gardening.

THE VICTORIA REGIA.

HISTORICAL REMINISCENCES BY PROFESSOR SAMUEL LOCKWOOD, PH. D.

It was our privilege to see this queen of the Water Lilies in bloom at Kew Gardens, England, October, 1878. There was a display of Water Lilies from all parts of the world, in every witchery of form, color, and odor—pure white, soft rose-tinted, and deep pink, and the loveliest blue. But the most entrancing for form, color, size, and fragrance was the *Victoria*. She shone, indeed, as the empress of the entire floral dominion.

The present generation cannot realize the interest taken in this superb plant nearly forty years ago — the intense desire to get specimens to Europe, the great efforts, and the provoking failures. Even the seed would refuse to germinate. At last, it was taken over the sea in its native water, and painful care was had as to temperature — even periodical agitations of the fluid, as if to deceive the coy embryo into the idea of the flowing of its natal stream. When success was attained, it was accounted among the florists of the world as "the big thing of the age." But the conditions of success were so costly: a glass house, a tank of thirty feet diameter, and the water steadily kept up to eighty degrees of temperature; private means, unless munificent, could not suffice.



VICTORIA REGIA.

The leaves of the plant are six feet in diameter; they are green above and red underneath, suggestive of the color habit of the foliage of the Begonias, especially *B. sanguinea*, though it should be said that, as a rule, the Water Lilies have the under side of their leaves of a liver-red, or purplish. These gigantic Lily-leaves, speaking popularly, are, when fully grown, round, and with the edge turned up two inches or more, look like immense floating tea-trays. Large aquatic birds stand on them by the hour, watching for fish to pass by. But those great leaves are ribbed in a most ingenious way, imparting immense strength; so that with a board properly arranged to distribute the pressure, a prodigious weight can be borne. I have some notes which I think were made some thirty years ago, from which we will extract, though the figures seem incredible. It was stated in *Science pour Tous*, that in the aquarium of the Botanical Garden at Ghent, the head gardener, M. van Houtte, was interested to learn the force required to immerse one of the floating leaves in the water. One leaf supported a child; another was not submerged by the weight of one of the gardeners. He was led to experiment as to the limit of this resistance—loading the surface of one of the largest leaves with bricks. It was found to bear a weight of 760 pounds avoirdupois — that is to say, nearly equal to five men of average weight.

The first successful effort to bring the *Victoria regia* into bloom in England was in the world-famous botanical gardens of the Duke of Devonshire, at Chatsworth House. Joseph Paxton, the Duke's head gardener, constructed the great glass house for its accommodation, which took the name of its gorgeous occupant. The hint for the construction of this fairy-like building was derived from a study of the structure of the *Victoria's* leaf.

We may, in passing, say that Mr. Paxton designed the Crystal Palace for the World's Fair in England, 1851, built chiefly of glass and iron, all being primarily due to his study of the leaf mentioned. For this achievement he was knighted, and thus became Sir Joseph Paxton.

The first flower of *Victoria regia* in England, as above, was in November, 1849. The event brought together a distinguished concourse of visitors of the nobility and *literati*. A novel event was the appearance, on the occasion, of little Miss Annie Paxton, who, dressed in costume of a fairy, took her place in one of the tray-like leaves, and, like a Naiad of the waters, presided as the fairy guardian of this beautiful floral queen. Such an event could not be less than inspiring; accordingly, the muse of the famous Douglas W. Jerrold produced the following:

On unbent leaf, in fairy guise
  Reflected in the water,
Beloved, admired by hearts and eyes,
  Stands Annie, Paxton's daughter.

Accept a wish, my little maid,
  Begotten at the minute,
That scenes so bright may never fade,
  You still the fairy in it.

That all your life, nor care, nor grief,
  May load the winged hours
With weight to bend a Lily's leaf,
  But all around be flowers.

It will astonish some to be told that the *Victoria regia* was made to flower in a tank in the open air by Mr. E. D. Sturtevant, at Bordentown, N. J., last August, the water being kept at its right temperature by pipes. I was one of a small party invited to witness the event, but was far away at the time. An enthusiastic friend wrote me about it, and what follows is mainly from his letter: At the first visit, the leaves were six feet across, with a rim about two inches high, and a bud just visible in the depths. It was expected to bloom in two weeks, and we intended to go again with yourself, Mrs. Treat, and others. Alas! the bud shot up with almost visible rapidity, and bloomed on Sunday evening. I saw it at its second opening, when it was somewhat the worse. At its first opening, the flower rested on the water, a pure white blossom a foot in diameter, and filled the air with a delicious pine-apple perfume; at its second, it was raised above the surface, the petals had become a pale rose, and were strongly reflexed, while the perfume was entirely gone. The stamens were a deep rose color, and folded down, so as to completely cover the stigma, etc. On this second evening, a strange event took place, which we unfortunately did not see, as we had to go to the train, but which was communicated by those who did see it. About half-past seven P. M. the stamens suddenly lifted themselves, and with quite a perceptible jerk shook a mass of pollen down on the stigma. It seems hardly credible, but it is true: this Victoria had produced four great leaves, with another partly unrolled, and had bloomed, all from a plant six inches high, with one small leaf, in just four months. One would think that the forming of its cells ought to be visible with a hand lens.

To give completeness to this little sketch, let me quote from the *American Cyclopædia*: "The flower is of two days' duration. The first day it opens about six P. M., and remains open until about the same hour next morning; in this stage it is cup-shaped, twelve to sixteen inches across, with numerous pure white petals, and emits a delightful fragrance. The second evening, the flower opens again, but it presents an entirely different appearance; the petals are now of a rosy-pink color, and reflexed, or bent downward from the center, to form a handsome coronet, but now without odor; the flower closes toward morning, and during the day it sinks beneath the surface to ripen the seeds." In South America, the seeds are called water-maize. They are very farinaceous, and are roasted and eaten. [The above beautiful illustration, forming a most appropriate accompaniment to this interesting article, is reprinted from one of our earlier numbers.—ED.]

Rural Life.

DRAINAGE OF COUNTRY HOUSES.

The cleanly care of the body and the ventilation of rooms avail not much, if about the house there creep and crawl the invisible, but none the less terrible impurities from damp, moldy cellars, standing pools of slop water, and neglected, barbarous privies.

"How long we might live," exclaimed Dr. Nichols, "if we could only get out of our dirt and that of our neighbors!" In the better part of large cities people seem to have succeeded very well in "getting out," thanks to the rigid enforcement of sanitary laws, and although a clogged sewer-pipe has power to transform the most elegant mansion into an intolerable dwelling-place, it remains for the country to furnish horrors which would make a sanitarian's hair stand on end.

The cheering thing about this rural disregard for health laws is, that it seems to be an unconscious disregard, a sin of thoughtlessness. The tasteful and thrifty farmer has his fences, outbuildings, and walks in faultless repair, while indoors his wife scrubs and polishes and is a marvel of order and neatness; and yet, some villainous cess-pool brewing its mischief in the insulted air, or some repository of filth — emboweled, as it may be, in luxuriant vines — breathes out its poison day and night, and mocks the orderly care of the farmer and tidy pride of his good wife, with its unspeakable pollution.

Could the farmer be permitted to encounter these air-poisons in tangible shape,—could he, for instance, catch a glimpse of diphtheria peeping into the sleeping-room of his beloved little ones, or scarlet fever dogging their steps, or typhoid threatening the wife of his heart,—would he not employ every means to avert them?

There is no excuse for bad "gases" about country homes. Every owner of an acre of land has the means of maintaining a clean atmosphere, providing, of course, there are no unconquerable marshes or miasmatic rivers to deal with.

The various kinds of tiles for drains for conveying away slops and waste, to points where they may be speedily evaporated by wind and sun, are durable, effectual, and cheap. Placed below the reach of frost at a pitch to create a rapid flow, they will not become clogged, and will last a life-time.

In summer, the laundry suds can be applied to the garden with good effect; but there should be a kitchen sink connecting with the drain, not only for convenience in disposing of waste water at all times, but to prevent the nuisance of frozen slops and ice cloggings when the only opening is outside the house. This kitchen pipe can easily be "flushed" every week with boiling suds, and a semi-occasional dose of chloride of lime or carbolic acid will keep it clean and odorless.

Kitchen waste in the country, very fortunately, need not await the round of the garbage-cart, and can be disposed of at any time before it becomes rancid and pestilential. Indeed, in well conducted housekeeping it is not "waste at all, but wholesome" scraps that are well received by the chickens, the pigs, and the soap-fat jar. The little that cannot be disposed of in these ways should be burned. There is nothing better than cremation for stuff that, from neglect or accident, becomes unfit for anything else.

These two sorts of refuse being so easily disposed of, the serious thing to consider is the last and the worst, the old-fashioned privy; old-fashioned, because in every new, first-class, scientifically builded house it has given room to something better. This nuisance is too philosophically endured. It is by no means a necessary evil, and there is no virtue in submitting to its existence. We often see heroic attempts to overcome its objectionable features. It is made to stand afar off; but distance in this case lends no enchantment, and the long walks back and forth in all sorts of weather, and the noisome condition of the building itself are often serious exposures to aged people and delicate children. Sometimes it is brought nearer, taken under the house roof, curtained and carpeted, and then we have "sewer gas" all the year round, and in the summer a nuisance that more or less contaminates the whole house. The best way to overcome this evil is to adopt the dry earth or ash system. Because some of the first closets proved unsatisfactory, no one should be prejudiced against the system itself, which is finding wide and wider acceptance through improved and perfected machinery.—*E. H. Leland, in "Farm Homes."*

THE LAST LOAD—A MIDSUMMER PICTURE.

If there is anything more exhilarating than the odor of newly-mown hay, piled high upon big mows, as one walks over the main floor of a well-filled barn, with the hot breeze rushing in at one open door and out at the other, on one of these midsummer days, we don't know where amid all the sights and sounds and fragrance of town or country life it may be encountered. We are familiar with the vivifying odor that comes from the fresh running brooks of the earliest spring-time, while the snow yet lingers in huge patches here and there along the cool sides of the little hills, slowly yielding their stored-up moisture to the fragrant rill at their base, telling us that winter is over and past; with the fragrance of the freshly turned furrow as the patient oxen slowly plod along over the ridgy field, with a delightful mist rising from the ground as each new furrow goes over, the robins and sparrows hop and sail along in glee behind our plow — promise of the delightful spring-time which has just opened; with the luscious smell that comes from ripe Apples, ruddy and cheerful as in the early October mornings they lie in generous heaps under the trees upon which they so recently formed the chief beauty, awaiting transport to cool cellars on their way to the crowning joy of the social evening festivities of the farm-house. But more grateful and more significant than these and all beside, there is the exquisite fragrance from a barn full of herds-grass and clover, vernal grass, and meadow fox-tail.

It is midday. We have just eaten dinner after a forenoon following the mower and tedder. The tumbles of hay, cut yesterday, have been open to sun and air. The great doors at both ends of the barn are wide open, and an empty hay-rack has just been run out of the barn. Upon the floor the sweet hay covers the planks like a soft carpet; while away above the braces, even to the beams, is piled the harvest of field and meadow.

We stand on the floor and catch the soothing influences of the west wind, ladened with odor of field and flower as it envelops us, like the perfumed waters of a Turkish bath, coming at one, going at another entrance. The landscape viewed from the big door is of marvelous beauty. A wooded hill; a pasture in which are cows reclining under the shade of trees, their faces windward, chewing their cuds; a running brook; growing grain fields, and the tropical leaves of Indian Corn playing in the breeze; an orchard; a winding road over which is a dusty cloud from the passing carriage; a farm-house; a field in which workmen are hurriedly bunching up the outspread hay.

What was that? The rolling of distant thunder. Look! The billowy clouds, black and threatening, piled over and over each other, fill the western sky. What a marshaling of the hosts of air, thunder-laden and rain-filled! Down to the field goes the big rack; the tumbles are piled in; the forks and rakes fly; strong men sweat under the great forkfuls of hay. The clouds gather. Every moment an accurate eye sweeps the blackened heavens, measuring the distance away of the shower, and computing the rate at which it is traveling. There is a strong rustling of the leaves; the breeze increases and is laden with the odor of rain-drops; hay is blown from the rapidly moving load; the chickens run for shelter; the farm gate is blown on its hinges; the sound of the rain is plainly heard. Hurry! The hay-rack strikes the platform leading to the floor; the load plunges into the barn with a thud; the boys on the top of the load bounce as upon a pillow, as the wheels strike the sill; down comes the rain in torrents. There is a merry ring of glad voices — it is the last load. *Home Farm.*

Obituary.

DR. JOHN A. WARDER.

The announcement of the death of Dr. John A. Warder, of North Bend, Ohio, on July 15th, will bring sorrow and regret to thousands of homes throughout the land, for few men possess the natural gift of making themselves beloved by all who know them in so great a measure as he did.

Dr. John A. Warder died in his 72d year, at his charming home on the Ohio River. He was born near Philadelphia, Pa., and in 1830 removed with his parents to Springfield, Ohio, but soon returned to Philadelphia to study medicine and natural sciences. In 1837, he married, and commenced the practice of medicine in Cincinnati. He soon rose to eminence, and became one of the most successful physicians of the city. During all this time he took a lively interest in science, and especially in horticulture and forestry.

In 1855, he gave up his practice and bought a part of the President Harrison farm at North Bend, to which he gradually added until he possessed more than three hundred acres. There he spent much of his time in testing new varieties of fruits and in experimenting with various methods of their cultivation. The results of his observations and rich experiences thus obtained he was always ready to communicate to others in the liberal and unselfish spirit which was one of the leading traits of his character.

Among his best known works are "American Pomology—Apples"; "Hedges and Evergreens"; Du Breuil's "Vineyard Culture, American edition"; "Report on Forests and Forestry." But highly valuable as these works are, the greatest service he rendered to his fellow-men consists in the many shorter articles and essays scattered through our leading periodical publications, and in the active interest he took in the formation and management of many scientific and horticultural societies. With his death the American Pomological Society, of which he was vice-president, loses one of its stanchest pillars and worthiest representatives, and his cheerful presence and wise counsel will be sadly missed at the coming meeting at Philadelphia.

Dr. Warder combined in a rare degree natural, inborn gentleness with that easy and polite refinement which at once begets confidence, attracts, and befriends. Sincere and earnest in his devotions, and exceptionally considerate and delicate in all his transactions with others, his loss leaves a vacant place in the hearts of all who were so fortunate to enjoy his friendship that can never be entirely filled again.

What change the loss of so noble a man must bring to the once happiest of homes, to the tenderly loving wife and the dearly devoted sons and daughters, can be easier imagined than written on paper. The pen is insufficient to describe the grief, and words of consolation would seem almost a mockery. With thousands of friends, we mourn our loss, while we extend our deepest sympathy to his afflicted family.

Miscellaneous.

THE CORN CROP IN JULY.

Mr. J. R. Dodge, statistician to the Department of Agriculture, calculates that the area of the Corn crop has been increased about two and a half million acres, making the aggregate sixty-eight million acres. There has been some extension of area in nearly every State. The proportion of increase is large in the North-west and South-west. On the coast, from Virginia to the Mississippi, the advance has been small. In some places the reduction of price, from enlargement of supply last year, had a discouraging effect.

There has been too much rain in the great Western maize districts, and failure of stands from planting poor seed, making the crop late and growth small, but improvement has of late been rapid. Taking all the States together, the average for Corn is 88 against 85 last July, 90 in 1881, and 100 in 1880.

FRUIT PROSPECTS IN OHIO.

Out here, at present,—writes our correspondent, Mr. M. Milton,—locusts have about the upper hand: they are in enormous quantities, and are doing a great deal of injury to young fruit; but the full extent of their destruction shall not appear before next season. Apples are but a small crop in this section; Raspberries, Blackberries, and Peaches are abundant, and Grapes about half a crop. Strawberries were but very indifferent.

THE SWEET COUNTRY COUSINS.

How dear to the heart are the sweet country cousins,
  When dog-days of summer begin to draw near,
When bricks have grown hot and when sunstrokes by dozens
  Fill body with anguish and bosom with fear!
The green waving fields and the sweet-smelling breezes,
  The 'scaping from turmoil to quiet and calm,
The rich, creamy milk which the ready hand seizes,
  And e'en the brown cousins who live on the farm;
The plain country cousins, the uncultured cousins,
  The sweet country cousins that live on the farm.

The sweet country cousins! oh, aren't they a treasure?
  How handy to have at the vacation time!
And paying one's board is a too costly pleasure,
  When all can be had without spending a dime.
How pleasant to live on rich cream and ripe berries,
  Fresh, golden-hued butter and cakes light and warm,
Free use of the horses, the carts, and the wherries
  Of sweet country cousins who live on the farm!
The plain country cousins, the uncultured cousins,
  The sweet country cousins that live on the farm.

How dear are the sweet country cousins in summer!
  How fragrant the meadow, romantic the down!
But straightway your faces begin to grow glummer
  At thoughts of their visit next winter to town,
The theater, the concert, the lecture, the money
  Expended in tickets! the thought gives a qualm;
The sequel of summer is not quite so funny—
  Why don't the sweet cousins remain on their farm?
The brown-visaged cousins, the great awkward cousins,
  The clodhopper cousins should stay on their farm.

—*Boston Transcript.*

DISAGREEABLE PHASES OF LIFE IN THE WEST INDIES.

The mosquitoes are very numerous and hungry; ants in myriads work eagerly over everything—I had the pleasure of waking up in a bedful of them; lizards and flies are in their paradise, and the air is flecked with the inky forms of the buzzard. All these creatures scour the earth and air in search of their varied prey. The buzzards dart into the water after the defunct sting-rays; the little shivering chameleons play all over the dead-wood fences like streaks of light, flashing in and out, with their painted throats, as if endowed with human intelligence; and at night other strange things come with the humidity of the dew,—lamp-worms, tropical moths, strange hooting things that shudder in the tree-tops and thrill you with their uncanny cries. The stars seem unnaturally numerous and luminous and low; the far night is full of strange sounds; the lightning trembles all around the edge of the sphere-circle in a sort of phosphorescent hysteria; and there is heavy scent and exhalation from the sleeping gardens. The dew will soon wet your shoulders if you sit out in the open air; you can almost put out your tongue and drink it as it gathers on the velvety air; and you are emphatically warned not to sit where it can saturate you. It is surcharged with injurious influences.

If the day, with what one might call its articulate, its thundering sunshine, is silent; if all the bright and concentrated color, the inter-melting forms of mountain and plantation, the reverberant sea-beach with its blue roll of endless water, are silent; if the very noise of the odd city of Kingston is a silence, what shall be said of the night?

My heart always sank after we rose from our seven o'clock dinner, or even as we approached it; for what was there after the meal save an eternal stillness and darkness? Kingston has no amusements; hardly anything that can be called a club or casino, for all its 40,000 folk. When night falls, it is a sort of annihilation, a severance from animated existence until the next day, a plunge into stygian *ennui*, whence there is no escape except in sleep.

To get into a bed bulging in the middle with some unknown mass and sloping at the sides at an angle rather too acute for slumber, is hardly a refuge from this state of things. I am sure that statistics of suicide or of homicide would show that most people in Jamaica kill themselves or their fellow-men at night; for how could it be otherwise? —*Prof. James A. Harrison, in Southern World.*

CHICORY FARMING.

Chicory farming, says the San Francisco *Chronicle*, promises to be one of the coming industries of California farming. Chicory was first planted in that State about fifteen years ago, but since that time it has been extensively raised on the San Joaquin and Sacramento rivers. Chicory is cultivated on a small scale in some of the Eastern States, and in some places in that section grows wild in abandoned fields and orchards. It grows very luxuriantly on the bottom lands of Louisiana and Texas. The root of the plant, when being prepared for use, is cut by a machine into small square blocks, then placed in the sun to dry, afterward roasted, and finally ground in a mill. Chicory possesses few elements in common with coffee, and yet it imparts a taste to it greatly fancied by certain coffee drinkers in Europe. In France and Belgium, the common people have become so accustomed to mix Chicory with the coffee they drink that they prefer it so prepared to the beverage in its pure state. Travelers in those countries, even when they purchase pure coffee for their private consumption, find that the cooks will mix Chicory with it, even after having received strict orders to the contrary.

OUR POULTRY INDUSTRY.

The annual egg and poultry production and consumption of the United States is estimated at $600,000,000,—six hundred million dollars,—one-fifth of which is controlled by the State of New-York. The Coney Island hotels alone use about a million dollars' worth of "broilers" during a season of but sixty days.

CANNING FRUITS AND VEGETABLES.

The Baltimore American estimates that there will be canned, in Baltimore alone, this season: 14,400,000 cans of Peaches, 2,000,000 cans Peas, 300,000 cans String Beans, and 100,000 cans of Pears.

BOOKS AND PAMPHLETS RECEIVED.

The Cotton Plant, *Marion, S. C.*—The initial number of this new journal, devoted to the development of the agricultural and industrial resources of the South, speaks well for its success.

New Jersey State Agricultural Society.—Premium List of the annual Fair to be held at Waverly, Sept. 17th to 21st. Fifteen thousand dollars will be awarded for prizes in the various departments.

J. T. Lovett, *Little Silver, N. J.*—Price list of Pot-grown and Layer Strawberry Plants, with instructions for their cultivation. Manchester and Atlantic Strawberries and Hansell Raspberry, specialties.

The Continent becomes dearer to its readers with every renewed visit. Excellent from the start already, each succeeding number seems to be an improvement upon its predecessors. The present number is especially full of interesting and valuable matter. The publication is admirable in every respect, and occupies in its weekly issues a distinct field in magazine literature.

Trees and Shrubs of Northern Europe and Asia, Notes by *Mr. Charles Gibb, Abbotsford, Quebec.*—These notes have been written by the author as addenda to an article on "Ornamental Trees," written for the report of the Montreal Horticultural Society, and contains, in addition to much interesting information about these countries in general, detailed descriptions of the most valuable trees and shrubs suitable for northern latitudes.

ANSWERS TO CORRESPONDENTS.

Hibiscus Not Blooming.—*R. M., Mount Laurel, N. J.*—Without details of the various conditions under which a plant is placed, it is generally impossible to tell why it does not come up to expectations. If the shrub grows in very light soil, mulching during summer may help it; pruning next spring may also prove beneficial.

Cape Jasmine.—*Mrs. C. B. B., Palmyra, N. Y.*—This beautiful plant, *Gardenia florida* botanically, does not naturally bloom in winter, which is its season of rest, and during which it should be kept cool and moderately dry. If then planted out in spring it will bloom freely in early summer. Our January number of this year contains an exhaustive article on Hydrangeas.

Rose Blight.—*Mrs. J. F., St. Louis, Mo.*—Your Roses are affected by the aphis, or green fly, the most injurious insect enemy to the Rose. Tobacco water is the best remedy against them. Boil four ounces of common smoking tobacco in a gallon of water for about ten minutes, and sprinkle or, better, syringe this decoction over the entire plant. This should be applied twice a week.

Scolymus.—*S. B. G., Daleville, Ind.*—Scolymus, Salsify, and Scorzonera differ but little in the mode of cultivation as well as their uses. The plants are biennial, and their cultivation is about the same as that of Parsnips. The seed is sown in spring and early summer, and the roots, which are the part eaten, are used the following winter and spring, but like Parsnips become unfit for food after the development of the flower-stalks.

Aristolochia Not Blooming.—*E. T., Amherst, Mass.*—The *Aristolochia*, Dutchman's Pipe, requires considerable age before blooming, especially when grown in very rich soil. Cutting back some of the most rampant shoots tends to develop flower-buds. Root pruning does also produce earlier flowering. The forcing of a sharp spade in the ground all around the plant at a distance of about two feet from the stem will probably produce the desired effect.

Canning Tomatoes.—*B. F. B., Whitestown, Ind.*—The great point in canning vegetables and fruits of all kinds is to boil the substances to be preserved long enough to destroy all organic life in them, to drive out as much air as possible, and to close the jars or cans perfectly air-tight. Various minor details have also to be observed in order to attain best success; and although there is no mystery about all this, most canning establishments consider some of their manipulations as trade secrets.

Asparagus.—*Several Inquirers.*—The stalks of Asparagus should not be cut the first season, as this will weaken the plants, which require all the foliage that grows to strengthen their roots. To cut the full-grown stalks and burn them as a remedy against the Asparagus beetle is, perhaps, better than to let the larvæ destroy them, but it nevertheless injures the roots seriously. We have used slug-shot with great success on our Asparagus, dusting it over the foliage as we did over Potatoes.

Engaging in Small Fruit Business.—*W. B. H., Winchester, O.*—We would not advise any one to engage largely in the "Small Fruit" or any other business without having had some practical experience in it. Yet, by commencing in a small way, without incurring much expenditure, visiting fruit-growers and observing their methods, and by carefully studying our Fruit Department, an observing, common-sense man will soon see his way clear. A. S. Fuller's "Small Fruit Culturist" is the best work on this subject.

Orange Scale.—*F. G. S., Boardman, Fla.*—William Saunders recommends in his recent work to use a solution of one pound of concentrated lye in three gallons of water. "Before the trees bloom the branches should be thinned out by pruning, so that air and light may have free access to the foliage and fruits, carefully burning all the prunings; then wash or spray the entire tree, trunk, limbs, and foliage, and, if practicable, use the wash heated to a temperature of about 130°, which would be nearly as hot as the hand could bear."

Strawberries for Nebraska.—*J. R. N., Tremont, Neb.*—It is impossible to tell positively which varieties will succeed best in a certain soil and climate, without previous experiment. If Strawberries are cultivated in your neighborhood, a personal inspection of these plantations and the experience of the owners will give you more valuable hints as to the selection of varieties than the reading of a whole library. Would advise a trial of Charles Downing, Sharpless, Manchester, Champion, Crescent, James Vick, Wilson, Cumberland Triumph, and Bidwell.

Melons Dying.—*H. H. F., Rockport, Tex.*—The trouble with your Melons is no doubt the "striped bug," the most insidious and persistent enemy to the entire cucurbitaceous family. The parent insect is a small, bright yellow beetle, with broad black stripes on its wings, and a black head. The mischief is done by its larva, which is hatched in the stem of the plant, near the surface, and eats and destroys the heart of the vine. Various remedies are employed for its destruction. Sprinkling the vines when wet with the usual insecticides has generally the desired effect. In a small way, nothing is surer than the plan described in our May number, page 82.

Fay's Prolific Currant.—A box of beautiful bunches of this Currant, which was placed on our table by the kindness of Mr. Geo. T. Josselyn, Fredonia, N. Y., reminds us to speak a good word for this excellent new variety. The bushes we have in our garden were actually loaded with magnificent fruit, and their vigorous growth, compared with the older kinds growing near by, was plainly apparent to every one.

Horace Waters & Co.'s Pianos and Organs enjoy an enviable reputation wherever known, and are rapidly making their way into every State of the Union, as well as to foreign lands, over 50,000 being already in actual use. The system of the house, of selling directly to the purchaser and warranting every instrument for six years, insures to the buyer the least possible risk at the smallest cost.

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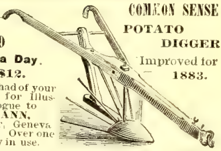

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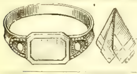

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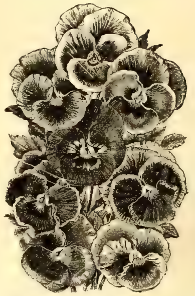

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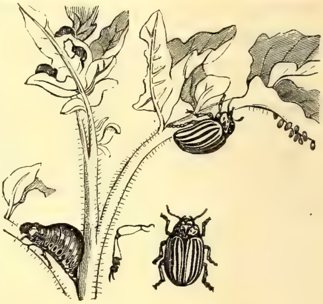
Put up in barrels of 200 lbs. in bulk, $7.50 per bbl. Packages of 5 lbs., 30 cts.; 10 lbs., 50 cts.; 15 lbs., 75 cts. Cannot be sent by mail. Prices to the trade given upon application.

Manufactured by B. Hammond & Co., Mt. Kisco, N.Y.



B. K. BLISS & SONS, Wholesale Agents, New-York City.

SELECT LIST OF CHOICE FLOWER SEEDS

FOR SOWING IN JULY, AUGUST, AND SEPTEMBER.

Of Easy Cultivation in Parlor, Greenhouse, and Garden.

Particular attention is invited to the following list, the seeds being of a quality that cannot be surpassed. They have been selected from the stocks of several of the most successful cultivators and exhibitors in this country and Europe, and we can confidently recommend them to growers requiring specially good strains for either commercial or competing purposes.

No.		*Per Pkt.*
276.	**Ageratum imperial dwarf.**—A delicate *blue* of dwarf habit, highly recommended for pot-culture.	$0.10
280.	**Ageratum Wendland's dwarf white.**—Of similar habit to the above with *white* flowers. Very appropriate for the cemetery, also valuable for bouquets	.10
445.	**Auricula.**—The finest prize sorts, saved from choice English hybrids	.25
464.	**Balsam, camellia-flowered, "White Perfection."** The best for pot-culture during winter	.25
517.	**Calceolarias,** extra select, beautifully spotted, extra large flowers—the finest in cultivation	.50
518.	**Calceolaria rugosa,** from the finest shrubby varieties	.50
689.	**Centaurea candidissima** *(ragusina)*, splendid silvery-leaved plant for beds, vases, and pots	.25
691.	**Centaurea gymnocarpa.**—Valuable for its silvery foliage	.15
731.	**Cineraria,** extra choice, from all the new varieties	.50
733.	**Cineraria, new double-flowering.**—A desirable acquisition. (Packets contain 25 seeds)	1.00
857.	**Cyclamen Persicum giganteum.** This superb variety is a new and greatly improved type, having very broad, beautifully mottled leaves, and stout flower-stalks, throwing the flowers well above the foliage	.75
880.	**Daisy, double white,** constant and perfectly double, valuable for florists	.25
1112.	**Gloxinia,** selected from prize flowers of both the drooping and erect varieties	.50
1245.	**Hollyhocks** (very double), saved from an unrivaled collection of English varieties; if sown now, will flower freely next year	.25
1558.	**Mimulus,** finest mixed, golden yellow and white ground, with crimson, rose, and scarlet blotches	.25
1680.	**Pansy, English,** extra select, saved from the finest prize flowers	.50
1681.	**Pansy, New German,** this variety is still unrivaled for size of flower and beauty of markings	.50
1884.	**Primula sinensis fimbriata** (Chinese Primrose fringed), various colors mixed, extra	.50
1890.	**Primula sinensis fimbriata filicifolia** (new fern-leaved varieties), very beautiful	.50
1894.	**Primula sinensis, fimbriata flore pleno** (new double varieties), rose and white mixed	1.00
2084.	**Stock, intermediate,** scarlet, white, and purple, extra mixed	.15
2107.	**Stock, Brompton,** superior for pot-culture, scarlet, white, and purple mixed	.15
2125.	**Sweet William, auricula-flowered,** this variety far surpasses anything before offered	.20
2272.	**Wallflower,** extra fine double German	.25

For a more extended list, see our Seed Catalogue.

Hardy Annuals, Biennials, and Perennials for Autumn sowing. Collections of 20 varieties, $1.00.

These collections contain only such varieties, that, if sown during the months of August and September, and slightly protected during Winter by a covering of evergreen boughs, will bloom early the following year.

B. K. BLISS & SONS, 34 Barclay Street, New-York.

FOR WINTER & SPRING

CHOICE COLLECTION

HYACINTHS, CROCUS,
TULIPS, LILIES,
NARCISSUS,
SMALL FRUITS, &c.

Our **Autumn Catalogue** of the above, 72 pages, beautifully illustrated, will be mailed to all applicants for 10 cents. Customers of last fall will be supplied from our books without application. Address

B. K. BLISS & SONS,
Seed, Plant, and Bulb Warehouse,
34 Barclay St. New-York.

HOT!

Who Can Suggest

A better time to purchase a hammock than during the present hot season?

HAMMOCKS!
HAMMOCKS!!

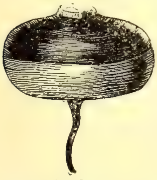
A full assortment of the best makes.

"The Peerless," Made of best linen cord, fully woven; meshes, ½ inch apart; price, $2.50 each.

"The Mexican," Made of plaited sea-grass, strong and durable. Plain, $2.00 each; colored, $2.50 each. By mail, 65 cts. extra.

Patent Anchor Ropes for adjusting or removing Hammocks easily and quickly. Price, 50 cents per pair; by mail, 75 cents. Address

B. K. BLISS & SONS, 34 Barclay St. N. Y.



TURNIP SEED

All grown from carefully selected roots.

NEW VARIETIES.

Jersey Lily.—Unquestionably the most perfect in outline, and the earliest White Turnip grown; of exquisite flavor; in shape as perfect as an orange; with a single tap-root and very distinct, small top. Per pkt., 5 cents; oz., 10; ¼ lb., 30; lb., $1.00.

Extra Early Purple-top Munich.—A very distinct and remarkably handsome early Turnip, with a bright purplish-red top and fine mouse-tail root. It has proved to be quite *three weeks* earlier than any other variety sown on the same day side by side with it. Per pkt., 5 cts; oz., 10; ¼ lb., 30; lb., $1.00.

Turnip, Golden Rose.—The hardiest and best Winter Turnip; flesh of a rich golden yellow color, with single tap-root; flavor most delicate and melting. Per pkt., 5 cts.; oz., 10; ¼ lb., 30; lb., $1.00.

If by mail, in quantities of 4 oz. and upward, postage must be added at the rate of 16 cents per pound.

For general list of turnip seed, see advertisement of Vegetable Seeds in another column.

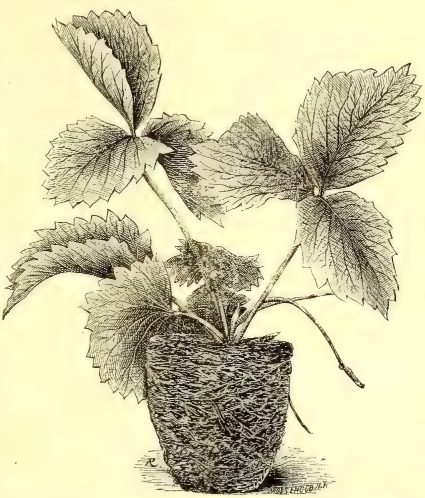
B. K. BLISS & SONS, 34 Barclay Street, N. Y.

"ANY FOOL

Knows enough to carry an umbrella when it rains, but it's a wise man that carries it when the sun shines." So said a Philadelphia gentleman who was caught in the rain in the White Mountains. Any person can be wise—weather wise—who has a **Pool's Signal Service Barometer** to consult, as it predicts the weather for twenty-four hours in advance. We will send one by mail, post-paid, to any address in the U. S. on receipt of 75 cents. By express, purchaser to pay charges, 50 cents each, $2.25 for six.

B. K. BLISS & SONS, 34 Barclay St. N. Y.

STRAWBERRY PLANTS.—New Varieties.



ATLANTIC.—A splendid variety, possessing many desirable and remarkable qualities. Fruit large and uniform in size, of a bright crimson color, and excellent flavor. Layer plants, $2.00 per dozen, $10.00 per hundred; potted plants, $2.50 per doz., $12.00 per hundred.

THE PRINCE OF BERRIES.—Of superior flavor and quality, brilliant and beautiful in color, very productive, and of such determined hardy qualities as will undoubtedly make it the most successful berry ever introduced to the public. Layer plants, $2.00 per dozen, $12.00 per hundred; potted plants, $2.50 per dozen, $14.00 per hundred.

DANIEL BOONE.—Of excellent color and flavor, and likely to rank high as a market berry. Layer plants, $1.00 per dozen, $5.00 per hundred; potted plants, $1.50 per dozen, $6 00 per hundred.

JAMES VICK.—Layer plants, 75 cts. per dozen, $3.00 per hundred; potted plants, $1.00 per dozen, $5.00 per hundred.

Big Bob,
Jersey Queen.

Layer plants, 50 cts. per dozen, $2.00 per hundred; potted plants, 75 cts. per dozen, $3.00 per hundred.

Manchester,
Seneca Queen,
Warren,
Longfellow.

Layer plants, 50 cts. per dozen, $1.00 per hundred; potted plants, 75 cts. per dozen, $2.50 per hundred.

For further information, we refer to our Strawberry Plant list, which will be mailed to all applicants.

STANDARD VARIETIES.

Layer plants, 50 cts. per dozen, 75 cts. for fifty, $1.00 per hundred; potted plants, 50 cts. per dozen, $2.50 per hundred.

EARLY.
- **Bidwell,**
- **Cinderella,**
- **Crescent (P),**
- **Crystal City,**
- **Duchess,**
- **Duncan,**
- **Essex Beauty,**
- **Pioneer,**

MEDIUM.
- **Chas. Downing,**
- **Cumberland Triumph,**
- **Great American,**
- **Monarch of the West,**
- **President Lincoln,**
- **Seth Boyden,**
- **Sharpless,**
- **Wilson,**

LATE.
- **Captain Jack,**
- **Glendale,**
- **Golden Defiance (P),**
- **Hervey Davis,**
- **Kentucky,**
- **Marvin,**
- **Miner's Prolific,**
- **Mount Vernon.**

At the dozen rate, layer plants will be sent by mail, postage prepaid. At the hundred rate, if to be sent by mail, 50 cents per hundred for postage must be sent in addition to the price.
Potted plants cannot be sent by mail.

B. K. BLISS & SONS, 34 Barclay Street, New-York.

Vegetable Seeds for sowing in July, Aug. & Sept.

If by mail, in quantities of 4 ounces and upward, postage must be added at the rate of 16 cents per pound; and for postage on Peas, at the rate of 25 cents per quart.

	Per pkt.	Per oz.	Per ¼ lb.	Per lb.
Cabbage, Early Jersey Wakefield	10 cts.	$0 75	$2 00	$7 50
— Henderson's Early Summer	10	50	1 75	6 50
— Early York	5	20	60	2 00
— " Winnigstadt	10	25	75	2 50
— " Flat Dutch	10	50	1 75	6 00
— " Fottler's Improved Brunswick	10	50	1 75	6 00
— Premium Flat Dutch	10	40	1 50	5 00
— American Drumhead	10	40	1 50	5 00
Cauliflower, Earliest Paris	15	1 00	3 50	12 00
— Sea Foam (Extra Early, New and Fine)	50	10 00		
— Half-Early Paris	15	80	3 00	10 00
— Early Dwarf Erfurt	25	2 00	7 00	24 00
— Extra Dwarf Early Erfurt (Extra Select)	50	8 00		
— Early Snowball	25	5 00		
— Algiers	15	1 00	3 50	12 00
Corn Salad, Lamb's Lettuce, or Fetticus	5	15	30	1 00
Endive, Green Curled	5	20	60	2 00
Kale, Improved Siberian	5	10	25	80
— Dwarf Curled, German Greens, or "Sprouts"	5	10	25	90
— Green Curled Scotch	5	10	30	1 00
Lettuce, Curled Simpson	10	20	60	2 00
— Simpson's Black Seeded	10	25	75	2 75
— Butter	10	25	75	2 50
— Boston Market *(True)*	10	25	75	2 50
— Hardy Green Winter	5	20	60	2 00
— Brown Dutch	5	20	60	2 00
— Tennis Ball	10	25	75	2 50
Mushroom Spawn, English, in bricks, 1 lb., 15 cts.; 8 lbs., $1.00.				
— — French, in 2 lb. boxes, per box, $1.00. By mail, 16 cts. per lb. extra.				
Onion, Italian Varieties—Giant Rocca	10	25	80	3 00
— — Giant Red Italian Tripoli	10	25	80	3 00
— — Giant White Italian Tripoli	10	25	80	3 00
— — New Neapolitan, Marzagole	10	25	80	3 00
— — The Queen	10	40	1 25	4 50
Radish, Scarlet Turnip	5	10	20	60
— Olive-shaped Scarlet	5	10	20	65
— Black Spanish	5	10	20	60
— California Mammoth White	5	15	50	1 50
— Chinese Rose-colored	5	15	50	1 50
Spinach, Round	5	10	15	35
— Prickly	5	10	15	35
— Large Round-leaved Viroflay	5	10	15	40
— New Savoy-leaved—an extra fine variety, much esteemed	5	10	15	40
Turnip, Early Flat Dutch	5	10	25	75
— White Top Strap-leaved	5	10	25	75
— Red Top Strap-leaved	5	10	25	75
— Yellow Aberdeen Purple Top	5	10	25	75
— Robertson's Golden Ball	5	10	25	75
— Large Yellow Globe	5	10	25	75
— White Globe Purple Top	5	10	25	75
— Large White Norfolk	5	10	20	60
— Early White Egg	5	10	25	75
— Yellow Malta	5	10	25	75
— Yellow Stone	5	10	25	75
— Seven Top	5	10	25	75
— Long White or Cowhorn	5	10	25	75

B. K. BLISS & SONS, 34 Barclay Street, New-York.

DONT BE A CLAM

CLAMS ARE NOT A PROPER MODEL FOR A HUMAN BEING TO COPY AFTER

they are wedded to their old clam-like notions:—they open their shells to take in their accustomed food, *but they shut up very tight when anything new comes along*

FOR THEY ARE CLAMS

and dont propose to allow things to penetrate their shells that were unknown to their grandfather clams and to their grandmother clams:

A Clam is not a good thing for a Housekeeper to copy after and a Clam is not a good thing for a Grocer to copy after:—

A WIDE-AWAKE HOUSEKEEPER* will try new ways *that are endorsed by leading newspapers:—
A WIDE-AWAKE GROCER* will try a new Molasses Gate and a new Coal Oil Can, *and will buy the kind of goods his customers call for.

Of course a woman is not expected to try every new thing that is offered her; if she does she will often be duped:—But when *so reliable a paper as* "The American Garden" *emphatically endorses in the strongest manner* every claim made for The Frank Siddalls Soap, there is certainly no excuse for not giving it one square, honest trial strictly as directed. Intelligent women are rapidly adopting new methods about their work, and those who have done so *are already beginning to look down with pity on persons who are set in their old ways:*—**SO DONT BE A CLAM**

FOR LADIES TO READ

ONLY THINK! ONE SOAP FOR ALL USES!

To the Housekeeper and her Help, to the Boarding-House Mistress and her Lady Boarders, to the Farmer's Wife and her Daughters, for the Toilet and Bath of Every Lady of Refinement, The Frank Siddalls Soap offers great advantages in Economy of Use, in its effect on the Skin, and in its freedom from injury to the fabric.

Among the Housekeepers of New England (where thrifty Housekeeping is proverbial) it has gained immense favor, and there is no better evidence of the merits of an article than to be able to say that **it meets approval in the Homes of New England.**

—FOR LAUNDRY AND KITCHEN USE—

JUST THINK! No Scalding or Boiling! No Smell on Wash-day!
Clothes Clean and Beautifully White, and as Sweet as if never worn!
No Rough, Red Hands! Clothes remain White even if put away for years!
The Soap Positively Guaranteed not to injure even the Finest Laces!

Where water or fuel is scarce *remember*
that with The Frank Siddalls Soap ***much less fuel*** *is necessary,*
and ***a few buckets of water*** *is enough for a large wash.*

JUST THINK! Flannels and Blankets as soft as when New!
The most delicate Colored Lawns and Prints actually Brightened!
A girl of 12 or 13 can easily do a large wash without even being tired!
And best of all, the wash done in less than half the usual time!

Use The Frank Siddalls Soap for Washing Dishes:—it is the only Soap that leaves the dish-rag Sweet and White, and the only Soap that can be depended upon to remove **the smell of Fish, Onions, etc., from forks and dishes. When you have a dirty dish-rag** dont blame your servants; *it is not their fault;* for you have given them soap made of Rancid Grease, and the result is a foul dish-rag; use The Frank Siddalls Soap, made of Pure Beef Suet, and you will have a Clean, Sweet-smelling Cloth.

So here is the Housekeeper's Choice:
Common soap and a foul dishrag-or-Frank Siddalls Soap and a dish-rag to be proud of

—FOR HOUSE CLEANING—

This is where The Frank Siddalls Soap appeals to the real ladylike Housekeeper. Use it for Scrubbing and Cleaning. Use it for Washing Paints, Windows and Mirrors, Wine-glasses, Goblets, and all Glass Vessels; ordinary soap, as is well known, is not fit for washing glass; while The Frank Siddalls Soap is a most elegant thing for this purpose. **Use it for Washing Marble Door Steps, Bureau Tops, Marble Statuary, Mantlepieces, etc:**—*It is the nicest thing for marble that can be imagined.*

For Washing Bed-clothes and Bedding, even of Patients with Contagious and Infectious Diseases, and for washing utensils used in the Sick-room, it can be relied on to cleanse and purify without scalding or boiling a single article.

—FOR WASHING BABIES AND BABY CLOTHES—

Babies will not suffer with prickly heat or be troubled with sores of any kind when nothing but The Frank Siddalls Soap is used, **its ingredients being so pure and mild.**

Dont use Soda to wash nursing bottles or gum tubes—*dont even scald them*—but wash them only with this Soap, and they will never get sour, but will always be sweet and clean.

—FOR THE SCHOOL BOY AND GIRL—

It is the best thing for washing blackboards and school slates, leaving them entirely free from grease, and without causing a scratch; the soap does not have to be rinsed off

FOR MEN TO READ

ONLY THINK! ONE SOAP FOR ALL USES!

The Merchant and his Clerk, the Photographer, the Optician, the Jeweler, the Artist, the Actor, the Bather at the Turkish Bath, the Printer, the Barber, the Hotel, the Stable, the Railroad, the Army, and the Navy, will all reap great benefit from the remarkable properties of The Frank Siddalls Soap.

—FOR SHAVING—

Its heavy, lasting Lather is so different from that of any Shaving Soap that its superiority is incredible; the face never burns or smarts, no matter how dull the razor, how tender the skin, or how closely shaved, *and the Sponge and Soap Cup will always be sweet-smelling.* **IMPORTANT FOR SHIPBOARD AND ARMY USE:—It washes freely in hard water, and where water is scarce, remember that The Frank Siddalls Way of Washing only takes a few buckets of water for a large wash.**

—FOR HORSES, HARNESS, CARRIAGES, etc.—

It is vastly superior to Castile Soap for washing a horse's mane and tail, while for washing Sores, Galls and Scratches *it is indispensable.* No stable is complete without it. For Harness, it is better than Harness Soap, thoroughly cleansing the leather and rendering it soft and pliable, while **for washing cars and car windows,** cleaning the running-gear and bodies of fine carriages, it is without a rival; by its use paint and varnish will last much longer, **and the Windows and Lamps will be as clear as crystal.**

The Frank Siddalls Soap is elegant for washing Printing Ink from the hands, and from Printers' Rollers, Type and Electrotypes, being much better than Benzine and safer, as shocking accidents by fire often occur from Benzine, and parents whose children use Amateur Printing Presses should remember this.

Type and Rollers washed with The Frank Siddalls Soap are in splendid condition for immediate use, and will take the ink readily.

SPECIAL FOR PHYSICIANS

To the Physician, the Druggist, the Nurse, and the Patient, its importance is becoming more and more widely known and appreciated, and it is rapidly superseding Imported Castile and similar soaps for use in the **Sick Room, the Nursery and Hospital.**

—IN CASE OF INGROWING TOE-NAILS—

In place of cotton-wool, a little of The Frank Siddalls Soap should be kept pressed between the nail and tender flesh—one trial will prove its superiority over cotton-wool

—AS AN ANTISEPTIC AND DISINFECTANT—

For Washing Old Running Sores, Bed Sores, Cuts, Wounds and Burns; for washing **Chafed Places on Infants and Adults;** for use by persons suffering with **Salt-Rheum, Tetter, Ringworm, Itching Piles, Eruptions on the Face,** and for children afflicted with **Scaly Incrustations,** it is without any of the injurious effects so often experienced when any other soap is used, while for washing the invalid **it is a most valuable aid to the Physician,** by the thoroughness with which it removes the exhalations from the skin that would otherwise tend to counteract the action of his medicines by closing up the pores, **and which cannot be accomplished by any other soap.**

Letters from well-known Physicians, describing their experience in their practice with The Frank Siddalls Soap, leave no doubt of the truth of these assertions.

Use it for Washing Sores on the Feet, caused by walking or wearing tight shoes.
Always leave plenty of the lather on—dont rinse the lather off.

For Washing Graduate Measures and Mortars it is better than anything else.

A representative from this paper has visited the business office of
The Frank Siddalls Soap
and thoroughly investigated
the offer of
A PREMIUM
to the Wife of every Grocer
IN THE UNITED STATES:—
The Premium is a most elegant one
and is undoubtedly sent
FREE OF CHARGE
after a thorough trial of the Soap
has been made
(even where her husband)
(does NOT sell the Soap)
and enough soap to make the trial
is sent
FREE OF CHARGE.

MADAME DEMOREST
Demorest's
Monthly Magazine
(*The Great Metropolitan Fashion Authority*
from the Atlantic to the Pacific)
Gives her personal endorsement
of The Frank Siddalls Soap,
and recommends its trial
by every housekeeper.

Use The Frank Siddalls Soap
for Washing Dishes

The Boston Pilot
One of the most valuable advertising
mediums in New England,
with a circulation exceeding that of any
other Catholic Journal in the United States
and an authority
throughout America and Europe, says:—
The announcements of
The Frank Siddalls Soap are a
welcome addition to the columns
of "*The Pilot*," as it is one of the
few advertised articles that
comes fully up to every claim
made for it, and every man and
woman should give it a trial.

SPECIAL PREMIUM TO THE WIVES OF GROCERS

A most Magnificent Premium can be had by the Wife of every Grocer in the United States.

The Premium is a very handsome Velvet Plush Case, containing 6 Heavy Plated Silver Knives and 6 Forks, manufactured specially for this purpose, and guaranteed to be the finest quality made.

The Premium is given to the Wife of a Grocer even if her husband does not sell The Frank Siddalls Soap

It will be sent *after* she has made a *Thorough Trial* of the Soap, and enough Soap to make the trial will be sent *Free of Charge*

The Wife of a Grocer who desires to get this Valuable Premium *MUST* Try a cake of The Frank Siddalls Soap on the whole of the regular family wash *strictly by the very easy directions,* and then send word by mail to the office in Philadelphia, together with business card or printed advertisement of some kind to show that her husband is a grocer, or send a bill for groceries bought of some wholesale grocer.

If you sell the Soap you can get a cake out of the store to try:—
if not, a cake will be sent by mail, *FREE OF CHARGE,* if the 2 promises are made

(The Premium is NOT sent until AFTER a thorough Trial of the Soap has been made.)

FOR THE TOILET IT IS SIMPLY PERFECTION

All perfumes are injurious to the skin; *The Frank Siddalls Soap is not perfumed,* but has an agreeable odor from its ingredients, **that is always pleasant, even to an invalid;** it never leaves any odor on the Skin; the face never has any of the unpleasant gloss that other soaps produce; it should always be used for washing the hands and face of those troubled with Chapped Skin:—**a child will not dread having its face washed when The Frank Siddalls Soap is used,** as it does not cause the eyes to smart with the dreaded intense sting that even Imported Castile Soap often causes; **it always leaves the skin Soft and Smooth.**

No tooth-powder or tooth-wash will compare with it.
A little on the tooth-brush makes the mouth, teeth and gums perfectly clean.
It leaves a pleasant aromatic taste, a sweet breath, and a clean tooth-brush.

——TRY IT FOR WASHING YOUR EYE-GLASSES AND SPECTACLES——

PERSONS WHO DESPISE A MUSTY SPONGE or WASH-RAG will appreciate The Frank Siddalls Soap. Whenever a Sponge has a disagreeable smell, it is due entirely to the so-called fine toilet soap that is such a favorite with you; it is the place of soap to keep a sponge or wash-rag sweet and clean, and The Frank Siddalls Soap will do it without any occasion to expose it to the air or sun.

It is especially adapted for toilet use with the hard water of the West and in Lake-water

When used for washing the head it is better than shampooing; plenty of the rich, white lather should be left in the hair (*not washed out;*) **it entirely does away with the use of Hair Tonic, Bay Rum, Bandoline, Pomade or any hair dressing.** Used this way it removes dandruff, the hair will not collect dust, and there will not be any itching of the Scalp:—**Coat Collars, Hat Linings and Neck-wear will keep clean much longer. The Frank Siddalls Soap is superior to Benzine or Ammonia for Cleaning Coat Collars, and for removing grease spots, etc., and is guaranteed not to injure the garment.**

ODD USES—QUAINT USES—SPECIAL USES

Eminent Physicians claim that skin diseases, such as **Tetter, Ringworm, Pimples,** etc., are caused by Soap made from rancid grease:— use The Frank Siddalls Soap and avoid all such troubles.

Artificial Teeth and Artificial Eyes will retain their original brilliancy unimpaired when kept washed with The Frank Siddalls Soap.

It washes Telescope Lenses and Photographers' Plates without a possibility of scratching them, while it is being used with the most gratifying results in **Schools of Design** for washing the expensive brushes used by the students.

For Washing Pearls, Coral, Diamonds and other precious stones, Jewelry, Gold and Silver Plate, and for cleaning Watch Crystals, it is considered by Jewelers superior to any powder or other preparation.

If you have a Pet Dog wash it with The Frank Siddalls Soap; be sure to leave plenty of the lather in its hair, and you will be surprised at the improvement; a dog washed occasionally with this Soap will be too clean to harbor fleas.

Use it for taking grease spots out of fine carpets and for cleaning rag carpets; also for cleaning garments of every description. It is better than Benzine or Hartshorn for cleaning clothing, and is guaranteed not to injure the fabric.

Use it for wiping off oil cloths, linoleum, &c.*—IT KEEPS THE COLORS BRIGHT, *and as it does away with scrubbing them, they will of course last much longer.

The hands of those at farm work, when The Frank Siddalls Soap is used, *will not chap* from husking corn, driving teams, and other out-door employment, ***but of course*** toilet soap, home-made soap, or any other kind **MUST NOT BE USED (*not even Castile Soap*)**

It is invaluable to farmers for washing wool before carding it or before selling it.

Milk Pans, Churns, and all Milk Utensils when washed with The Frank Siddalls Soap will be as clean and sweet as new, and do not require scalding or putting in the sun. It also THOROUGHLY removes the smell from the hands after milking

HOW A LADY CAN GET THE SOAP TO TRY

at Places where it is Not Sold at the Stores.

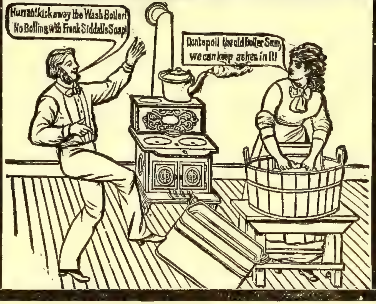
Send the retail price 10 cents in money or postage stamps. *Say she saw the advertisement in* "THE AMERICAN GARDEN." Only send for One Cake, and make these 2 promises:

Promise No. 1—That the Soap shall be used *the first wash-day* after receiving it, *and that every bit of the family wash shall be done with it.*

Promise No. 2—That *the person sending will personally see* that the printed directions for using the Soap shall be *exactly* followed.

By return mail, a regular 10-cent cake of Soap will be sent, *postage prepaid;* it will be packed in a neat iron box to make it carry safely, and 15 cents in POSTAGE STAMPS will be put on.

All this is done for 10 cents, *because it is believed to be a cheaper way to introduce it than to send salesmen to sell it to the stores.*


Hurrah! kick away the Wash Boiler! No Boiling with Frank Siddalls Soap!
Dont spoil the old Boiler Sam, we can keep ashes in it!

How to Tell a Person of Refinement.

A Person of Refinement will be glad to adopt a New, Easy, Clean Way of Washing Clothes, in place of the old, hard, sloppy way.

How to Tell a Person of Intelligence.

A Person of Intelligence will have no difficulty in understanding and following the very easy and sensible directions.

How to Tell a Person of Honor.

A Person of Honor will scorn to do so mean a thing as to buy the Soap and not follow directions so strongly urged.

How to Tell Sensible Persons.

Sensible Persons will not get mad when new and improved ways are brought to their notice, but will feel thankful that their attention has been directed to better methods.

And now dont get the old wash-boiler mended, but next wash-day give one honest trial to The Frank Siddalls Way of Washing Clothes.

A Wash-boiler MUST NOT be used, *NOT EVEN TO HEAT THE WASH-WATER,* and as the wash-water must only be lukewarm, a small kettle holds enough for a large wash.

A Wash-boiler will always have a deposit formed on it from the atmosphere, *in spite of the most careful Housekeeper,* which injures the delicate ingredients that are in this Soap.

Be sure to heat the water in the tea-kettle the first time, *no matter how odd it seems.*

Wash the White Flannels with the other White Pieces.

Be sure to always make the last water soapy; the clothes will NOT smell of the Soap, *but will be as sweet as if never worn,* and stains that have been overlooked in washing will bleach out while drying, and the clothes will iron easier.

Always dissolve a small piece of Soap in the starch: it makes the ironing easier, and the clothes handsomer.

The Frank Siddalls Soap washes freely in hard water without Soda, Lye, or any washing compound;

dont use *Borax, Ammonia, or any other Soap on any of the wash*

FIRST—Dip one of the garments in a tub of lukewarm water; draw it out on a wash-board and rub the Soap LIGHTLY over it so as not to waste it, being particular not to miss soaping any of the soiled places.

Then ROLL IT IN A TIGHT ROLL, just as a piece is rolled when it is sprinkled for ironing, lay it in the bottom of the tub under the water, and go on the same way until all the pieces have the Soap rubbed on them and are rolled up.

Then go away for 20 minutes to one hour—by the clock—and let The Frank Siddalls Soap do its work.

NEXT—After Soaking the FULL time, commence rubbing the clothes LIGHTLY on a wash-board AND THE DIRT WILL DROP OUT; turn the garments inside out to get at the seams, *but DONT use any more Soap;* DONT SCALD OR BOIL A SINGLE PIECE OR THEY WILL TURN YELLOW; and DONT wash through two suds. If the wash-water gets too dirty, dip some out and add a little clean water; if it gets too cold for the hands, add hot water out of the tea-kettle.

If a streak is hard to wash, rub some more Soap on it and throw it back into the suds for a few minutes.

NEXT COMES THE RINSING—which is to be done in lukewarm water, AND IS FOR THE PURPOSE OF GETTING THE DIRTY SUDS OUT, and is to be done as follows: Wash each piece LIGHTLY on a wash-board through the rinse-water (*without using any more Soap*) AND SEE THAT ALL THE DIRTY SUDS ARE GOT OUT. ANY SMART HOUSEKEEPER WILL KNOW JUST HOW TO DO THIS.

Next, the Blue-water—which can be either lukewarm or cold: Use little or no Blueing, for this Soap takes the place of Blueing. STIR A PIECE OF THE SOAP in the blue-water UNTIL THE WATER GETS DECIDEDLY SOAPY. Put the clothes THROUGH THIS SOAPY BLUE-WATER, wring them and hang up to dry WITHOUT ANY MORE RINSING and WITHOUT SCALDING or BOILING A SINGLE PIECE.

Afterwards soap the Colored Pieces and Colored Flannels, let them stand 20 minutes to 1 hour, and wash the same way as the White Pieces, being sure to make the last rinse-water soapy.

The most delicate colors will not fade when washed this way, but will be the brighter.

Address all Letters:—Office of THE FRANK SIDDALLS SOAP, 1019 CHESTNUT STREET, PHILADELPHIA

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ADAMS & WESTLAKE

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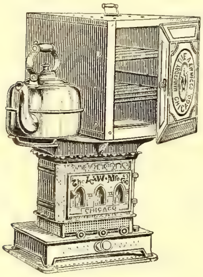

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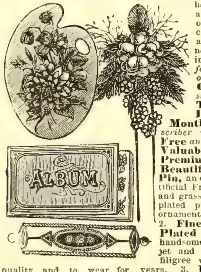

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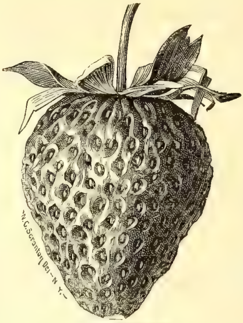
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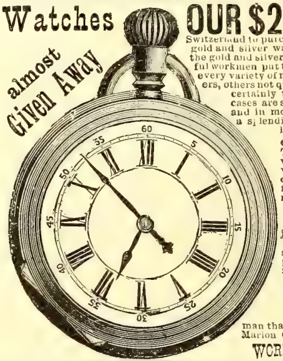

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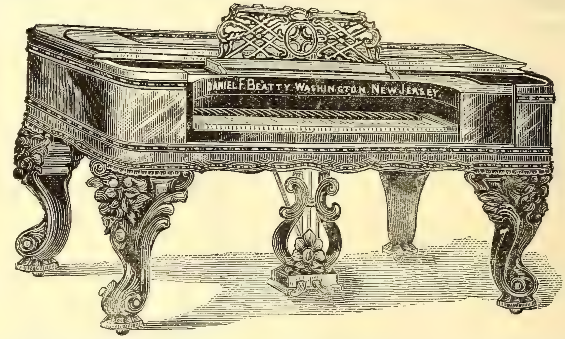
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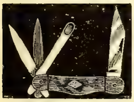

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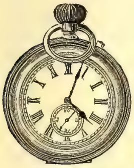

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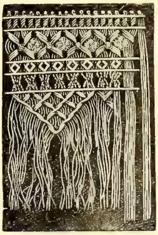

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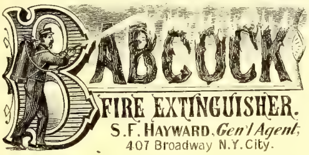

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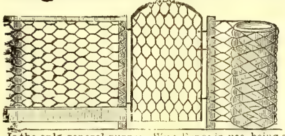

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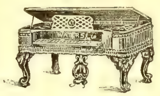

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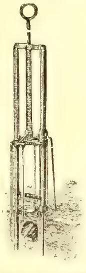

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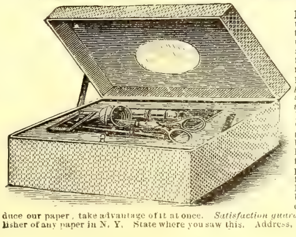
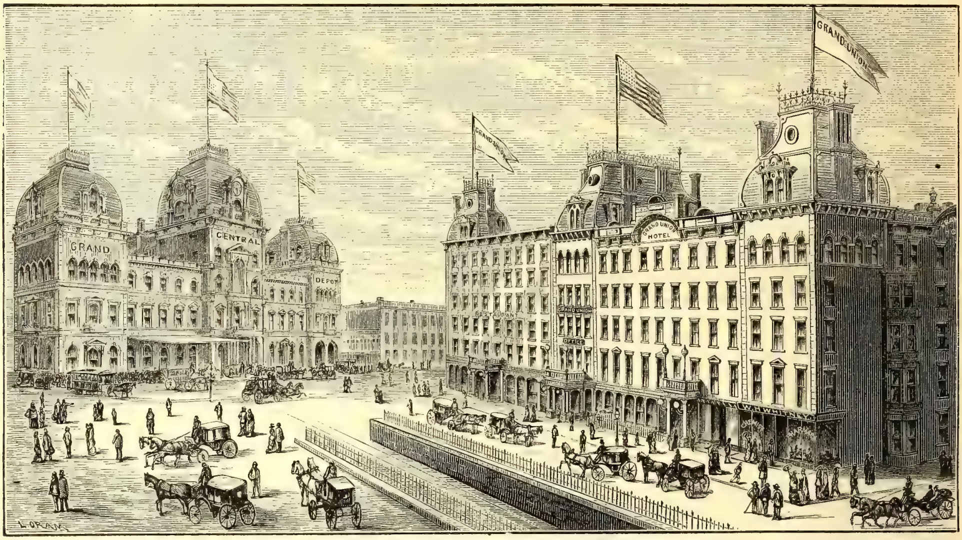


THIS ELEGANT LADIES' WORK BOX Sent FREE to All!

The accompanying illustration represents upon a miniature scale an **Elegant Ladies' Work Box,** made of wood covered with imitation Morocco leather, and beautifully embossed in gold. The interior is finished in blue and white, with separate compartments, and a mirror upon the inner side of the cover. The Work Box contains a pair of scissors, a silver-plated thimble, a silver-plated needle-case, a paper of fine needles, and a tape-needle. Wishing to greatly increase the already large circulation of our charming Illustrated Literary and Family paper, **The Cricket on the Hearth,** we now make the following *unparalleled offer: Upon receipt of only* **Thirty-nine Cents** *in postage stamps, we will send* **The Cricket on the Hearth** *for* **6** *Months, and to every subscriber we will also send* **Free** *and post paid, the* **Elegant Ladies' Work Box,** *with its contents as above described.* THE CRICKET ON THE HEARTH is a mammoth 16-page, 64-column *illustrated* paper, filled with charming Serial and Short Stories, Sketches, Poems, Useful Knowledge, Puzzles, Games and Stories for the Young, Wit and Humor, and everything to amuse, entertain and instruct the whole family. You will be delighted with it, as well as with the valuable premium we offer. Remember, we send this splendid Ladies' Work Box free to all sending 39 cents for a six months' subscription to our paper. Five subscriptions and five work boxes will be sent for $1.56; therefore, by getting four of your friends to send with you, you will secure your own paper and premium free. This great offer is made solely to introduce our paper, take advantage of it at once. *Satisfaction guaranteed or money refunded.* As to our reliability, we refer to the publisher of any paper in N. Y. State where you saw this. Address, **S. H. MOORE, Publisher, No. 8 Park Place, New York.**



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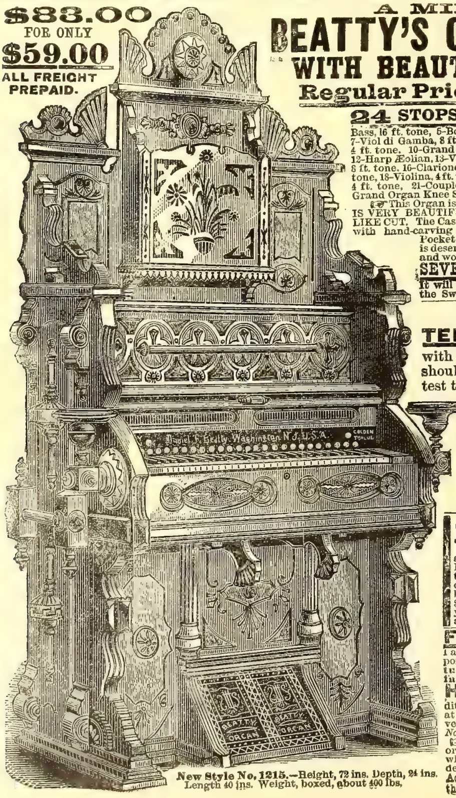

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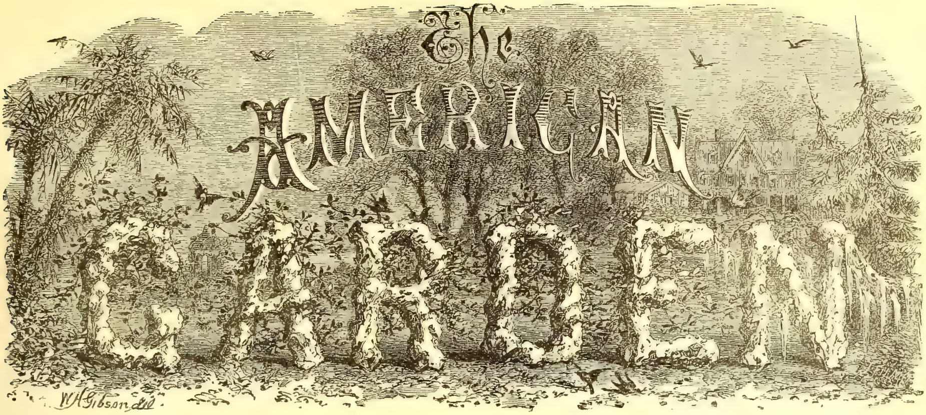

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The American Garden.

A MONTHLY ILLUSTRATED JOURNAL.

Devoted to the Gardening Interests of America.

ONE DOLLAR A YEAR.

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A GRAND EXHIBITION.

On Wednesday morning, September 12th, at ten o'clock, the American Pomological Society will open its biennial session at the Horticultural Hall of Philadelphia. From all indications, and to judge by the preparations which are being made everywhere, unusual attractions will be presented to all participants. The Pennsylvania Horticultural Society will hold its annual exhibition in connection with this, and in addition to the regular premiums offered the Philadelphia Society of Florists and Growers has secured subscriptions amounting to $1000, to be awarded in special premiums.

It will be remembered that, at the last meeting in Boston, it was decided to encourage general exhibitions of fruits, as well as new varieties and novelties; in consequence of which, an exhibition of unequaled magnificence may be expected.

Packages of fruit for exhibition should be addressed *Thomas A. Andrews, Horticultural Hall, Broad Street, Philadelphia, Pa.*, for the *American Pomological Society.* Freight or express charges should in all cases be prepaid.

All persons desirous of becoming members can remit the fee to *Benjamin G. Smith, Treasurer, Cambridge, Mass.* Life membership, twenty dollars; biennial, four dollars. Life members will be supplied with back numbers of the proceedings of the society as far as possible.

All persons interested in the cultivation of fruits are invited to be present and take seats in the convention.

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Who have gardens, or are in any way interested in flowers, fruits, vegetables, and country life in general, that by subscribing for THE AMERICAN GARDEN NOW, they will receive not only the twelve numbers of 1884, but also the October, November, and December numbers of this year and a beautiful painting in addition.

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GIVEN AWAY.

Our special and most liberal offer on last page of this number is well worth the attention of all in want of an English Dictionary and work of general reference. This useful book will be presented, absolutely free, to all subscribers to THE AMERICAN GARDEN. Such a favorable opportunity for securing a dollar book as a gift does not often occur.

APPRECIATIVE WORDS.

I am well pleased with THE AMERICAN GARDEN; many an article in it is worth all the paper costs for a year.—*C. C. S., Batavia, Ill.*

I find THE AMERICAN GARDEN very interesting and useful in my gardening pursuits here and preserve the numbers bound for reference.—*R. W. N., Naples, Italy.*

I prize THE AMERICAN GARDEN very much, and depend entirely on its instructions, which I have always found valuable and reliable. The bound volume is indispensable to me.—*C. W. B., Utah.*

THE AMERICAN GARDEN is just the paper that has long been needed. The arrangement of subjects is so orderly, its articles so practical, and the price so reasonable that every person who has a garden should take it.—*C. E. M., Jacksonville, N. Y.*

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The Vegetable Garden.

SEASONABLE HINTS.

Spinach, which is by far the most delicate of all the vegetables used for greens, is strangely neglected in most farm gardens. In city markets it is found the year round, but to the country resident its greatest value consists in its furnishing a fresh vegetable in early spring, when no other is easily obtainable.

The seed should be sown during the last week in August or the first of September; further south, sowing may be deferred till the middle of the month. It is sown thinly—about two or three seeds to the inch—in drills one and a half to two feet apart, covered about one inch, and firmly packed, smoothing the ground afterward.

As soon as the plants appear above the surface, they should be hoed, and the soil between the rows kept loose and clean, and when large enough to crowd each other, they are thinned out to three or four inches apart. If the remaining plants, as they grow, become crowded again, which will probably be the case in rich, warm soil, the alternate plants may be taken out, with the roots, just before the ground freezes up, and heeled in close together in a cold-frame, where they keep fresh and in good condition for a long time. Those who find these repeated thinnings too laborious may sow the seed so that the plants, from the start, will stand from one to two inches apart, and then thin them out as wanted for use. This mode, although it does not produce the largest heads for marketing, gives generally sufficiently satisfactory results for home use.

In northern climates it is necessary to cover Spinach during winter with a thin layer of straw or salt hay, similar to the mulching of Strawberries. This cover should not be removed before the plants commence to grow again in spring, or when wanted for use.

Exceedingly simple as is the cultivation of Spinach, it is vain to expect good results without a deep, rich, and thoroughly mellowed soil, nor without good seed. The *prickly-seeded* and *Savoy-leaved* are the best varieties for autumn sowing.

Lettuce for forcing during winter has to be sown now, and, when large enough, transplanted to cold-frames. The hardy varieties may be sown in an open bed, sheltered from cold winds and lightly protected during winter. Any rough structure of boards, covered with corn-stalks or other coarse material, will answer the purpose.

A few years ago a great many self-sown plants of "Brown Dutch Lettuce" came up during autumn, in a well-sheltered corner of our garden, furnishing a bountiful supply till nearly Christmas, when a heavy snowfall covered all. The snow did not disappear entirely till spring; but as soon as it commenced to melt, the fresh green and bronze-tipped leaves peeped brightly up from under their snowy mantle. Many of these plants made good-sized heads where they stood, while others were transplanted to the hot-bed and open ground. Ever since that experience about the hardiness of Lettuce, we have always endeavored to sow some Lettuce seed in autumn.

EARLINESS IN PEAS.

The relative earliness in different varieties of Peas does not remain the same when planted at different seasons, and the earliest varieties show their superiority in this respect only when planted at the earliest dates possible. In the trials made at our experiment garden this season, "Earliest of All" was the first to produce edible pods. They were planted on April 30th, and had edible pods on June 16th, forty-seven days after planting. The following varieties were all planted at the same date, April 30th:

	First Edible Pods.	*Height of Vines.*
Earliest of All	June 16	2 feet
First and Best	" 17	2 "
Impr. Daniel O'Rourke.	" 17	2½ "
American Wonder	" 18	8 inches
American Racer	" 20	3½ feet
Kentish Invicta	" 20	2½ "
Early Kent	" 21	3 "
Blue Peter	" 22	12 inches
Laxton's Supreme	July 2	4 feet
Bishop's Dwarf	" 4	2½ "
Yorkshire Hero	" 4	2 "
Forty-fold	" 4	4 "
Telephone	" 4	4 "
Fillbasket	" 6	2½ "
Bishop's Long Pod	" 6	2½ "

More extended experiments, with a view to determine the relative earliness of Peas, were made at the New-York Experiment Station. The final results, as given in the *Station Bulletin*, correspond mainly with our own, except that the time of edible maturity in our trials was considerably shorter. The station results with the early varieties are expressed in the following table:

	Planted Apr. 21.	*Planted May* 12.
	Edible.	Edible.
Laxton's Earliest of All	June 21	June 30
Kentish Invicta	June 22	July 3
Henderson's First of All	"	July 1
Ferry's Extra Early	"	"
Thorburn's First and Best	"	
Ferry's First and Best	"	July 1
Cleveland's First and Best	"	June 30
Hancock	"	"
Carter's First Crop	June 23	"
Daniel O'Rourke	"	"
Early Alpha	"	"
Extra Early Kent	"	July 7
Sibley's First and Best	"	June 30
Bliss' American Wonder	June 24	July 1
Blue Peter	"	"
Carter's Premium Gem	"	July 5
Philadelphia Extra Early	"	June 30

In summing up these results it is noted that twenty-one days earlier planting gave from six to fourteen days earliness of crop in varieties.

Averaging the periods between planting and edible maturity, the order of earliness is as follows:

Laxton's Earliest of All gave crop in fifty-five days; Cleveland's First and Best, and Hancock, in fifty-five and one-half days; Henderson's First of All, Ferry's Extra Early, Ferry's First and Best, Carter's First Crop, Daniel O'Rourke, Early Alpha, and Sibley's First and Best, in fifty-six days; Philadelphia Extra Early in fifty-six and one-half days; Kentish Invicta, Bliss's American Wonder, and Blue Peter, in fifty-seven days; Carter's Premium Gem in fifty-nine days, and Extra Early Kent in fifty-nine and one-half days.

To illustrate the value of selection in gathering Peas for seed, says Dr. E. L. Sturtevant, we last season gathered a small quantity of the first pods that ripened of the Tom Thumb variety, and a small quantity of the latest ones. We planted one hundred seeds each from the earliest and latest pods on April 21st, and the same on May 12th. We note the difference in the results of the two selections of seed to date, as follows: In vegetation of the seeds there was in the two plantings an average difference of fourteen and a half per cent. in favor of the earliest matured seed; in the date of blooming, an average difference of three and one-half days appeared, and in the date of edible maturity an average difference of five days, all in favor of the first planting. Perhaps of more importance is the difference in productiveness of the two selections of seed. Here we can only consider the first planting. Ten plants from the earliest ripened seed have produced, to date, sixty-eight pods, of which thirty-eight are well filled; while an equal number of plants from the latest ripened seed have produced, to date, only forty-nine pods, of which but thirteen can be called well filled.

The Tom Thumb variety was selected for this trial because the pods are formed during a longer period than in most other varieties. It is possible that in varieties of which the pods nearly all ripen at the same time, the difference in the results obtainable from the first and last ripened pods would be less marked. This experiment serves, however, to illustrate the importance of selection in gathering Peas for seed, and shows that the inherent quality of the seed used may have as much bearing on the resulting crop as the condition of the soil or the methods of cultivation employed.

VERMONT GARDEN NOTES.

TRANSPLANTING BEETS.

The Egyptian Beet may be transplanted more successfully than most other sorts, owing, perhaps, to its short tap root. By sowing the seed in a hot-bed, and afterward transplanting the young plants to open ground, Beets may be obtained two or three weeks earlier than if at first sown out-of-doors. I usually set them between early Cabbage, thus economizing space.

SUMMER LETTUCE.

None of the novelties in the Lettuce line as yet supersede the old Large India for general outdoor culture, unless it is the Stone-head Golden Yellow, a German variety which has apparently not gained the prominence it deserves, which may probably be accounted for by the fact that its leaves are smooth, thus rendering its appearance less attractive than the India.

DWARF BEANS.

The Marblehead Early Horticultural Dwarf Bean does not appear to be an established variety, as it comes very near being a pole Bean. As it is in no way superior to other sorts, I do not think it will prove valuable.

THE BEST TOMATO.

Among new varieties of Tomatoes, Livingstone's Favorite was the most vigorous at the start, and has held its own through the season thus far.

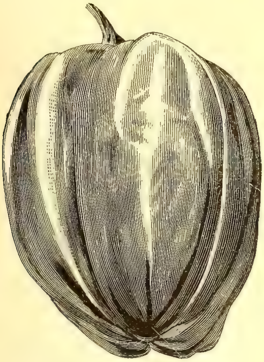
LATE TURNIPS AND CABBAGES.

A family supply of Turnips and Cabbage may be raised on ground previously occupied by Potatoes, Peas, etc.; but in this latitude the latter should not be set later than the middle of July, the former any time until the middle of August.

W. H. RAND.

PEPPERS.

The Pepper is a tender annual, much esteemed for its seasoning qualities, and is extensively used for flavoring soups and meats, as well as for pickling, for which purpose it is highly prized. It is also much valued for feeding to fowls during the winter season, chopped up fine and mixed with their feed in small quantities.


SWEET MOUNTAIN PEPPER.

As the Pepper is a plant of tropical origin, it requires to be started in heat in order to enable it to mature and properly ripen its fruit. The seeds should be sown in a strong hot-bed about the first of April, and as soon as the plants become strong enough to handle they should be transplanted into shallow boxes about three inches apart. These young plants have to be kept close and moist until well established, when they should be gradually exposed to the open air; and when the weather has become warm and settled, and all danger from frost is over, planted out in rows two or three feet apart, the plants standing two feet apart in the row, the ground being well manured previously. As soon as the plants commence to blossom, a good dressing of guano, or hen manure, should be given and well worked in with the hoe. All the care they require after this is to keep them well hoed and free from weeds at all times, as the Pepper delights in a rich soil, and requires to be well cultivated. The following are the most desirable varieties:

Sweet Mountain, or *Mammoth*, is a very large Pepper, much used for pickling. The skin is much thicker than in most other sorts.

Sweet Spanish has fruit of an obtusely conical shape and large size, often five inches long and three inches in diameter, and of a rich scarlet color when properly ripe. The fruit is sweet, mild, and pleasant, and on this account much esteemed by those who object to the more pungent varieties.

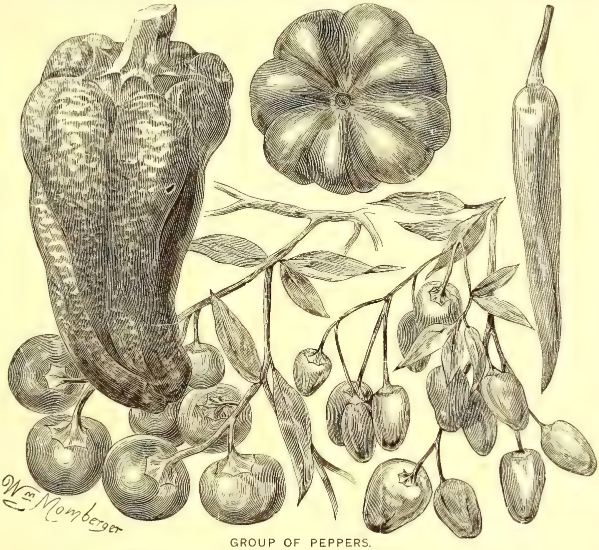
Spanish Monstrous, or *Grossum*, is a new variety, lately introduced, with very large but irregular shaped fruit, which is much used for Mangoes. The flavor is mild and pleasant, and with good cultivation the fruit often attains a length of six inches.

Squash, or *Tomato-shaped.*—The fruit of this variety has a flattened shape, and is more or less ribbed. It is two or three inches in diameter, and two inches in length. The fruit is exceedingly hot, and of a brilliant coral red color when ripe.

Long Red Cayenne.—The conical fruit of this variety is quite small, and of a bright coral-red color when ripe. It is intensely acrid, and furnishes the Cayenne Pepper of commerce. Both ripe and green fruit are used as Pickles, as well as for making Pepper Sauce. The *Long Yellow Cayenne* is a variety of this, differing from it in color only.

Cherry Red is a small, smooth, round variety of dwarf growth. The fruit at maturity is of a deep rich scarlet color, and is remarkable for its intense piquancy. On this account it is much used for seasoning and pickling. When well grown, this Pepper is a very ornamental plant, the glossy coral-red fruit presenting a fine contrast with the rich deep-green foliage with which they are surrounded.

Chili.—The pods of this variety are of a pendent habit and a sharply conical shape, and about two inches in length. They are very piquant, and on this account much prized by some for making pepper sauce.



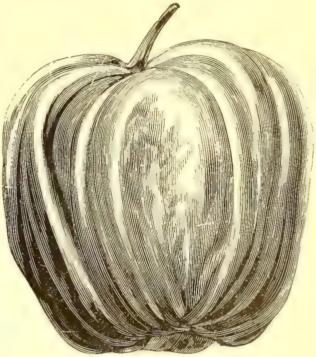
GROUP OF PEPPERS.
Grossum. Cherry. Squash. Chili. Long Cayenne.

Golden Dawn is a recently introduced variety of bright yellow color and obtuse conical shape. The plant is of dwarf habit and astonishing productiveness when proper care is given. This is claimed to be the mildest flavored and least pungent of all the Pepper varieties in cultivation.

CHAS. E. PARNELL.

THE SWEET-CORN BEETLE.

There is a beetle which has done considerable damage to the Sweet-Corn crop in some localities. It is about a half an inch long, of yellowish brown color, with irregular black spots, changeable metallic luster and very hairy, especially below. This beetle *(Cetonia Inda)* usually feeds upon the sweets of flowers, though sometimes making sad havoc with ripening Peaches. Its fondness for sweets has doubtless attracted it to the Sweet-Corn, where it finds an abundance, and at the same time becomes a pest to the growers of this table crop.


SWEET SPANISH PEPPER.

This beetle can without doubt be trapped by some sweet bait, and plates of molasses set for them would very likely attract a profitable "catch."

BRUSHING LIMA BEANS.

N. J. Shepherd, who formerly had always planted Lima Beans in the usual way, in rows four feet apart, and the hills two feet apart in the rows, setting a stake and then planting four or five Beans around it, has experimented with a different and, as he thinks, preferable method, which he reports to *Farm and Garden* as follows:

"I run a deep furrow with a plow, then put in a liberal supply of manure and work the soil back into the furrow, mixing as thoroughly as possible with the manure. I then plant my Beans about four inches apart in the row, and the rows three and a half feet apart. When they are up well, I brush them the same as Peas, only using longer and heavier brush. When the vines reach the top of these, I pinch off the running shoots, and find the Beans do better. In this way I can raise more Beans on the same amount of ground and have less surface to hoe. Hereafter I shall plant my whole crop in this manner."

The Fruit Garden.

SEASONABLE HINTS.

White Grubs are among the most dreaded and destructive pests in the Strawberry bed, as we are almost powerless to prevent their infestations. Yet, accepting the position as we find it, we can do considerably to stop them in their devastating career, similar to the principle according to which burning houses are pulled down to prevent the spread of the fire to the adjoining ones.

A grub-infested Strawberry bed should be gone over every day, and wherever a wilted plant is discovered, it should be dug up at once, and search made for the marauder. He will usually be at work at the main root, where he may easily be found and crushed. But when a plant is already badly wilted, which is a sign that it has been attacked some time ago, the grub—who prefers a fresh, juicy root to a dry and dead one—has generally already gone for another victim, usually the next plant in the row. Careful search has then to be made for another wilted plant and, if there is one near by which shows the least sign even of wilting, do not delude yourself with the idle hope that it may revive again, but pull it out at once, and the grub will be found every time. The treatment is radical, to be sure,—in every sense of the word,—but it is far better to pull out one half of your plants, in order to save the other, than to let the grub take all.

We have heard the remark made: "What is the use of killing a few, others will come to take their places?" This is erroneous, others will not, cannot come to take their places, at least not before another year and before another crop of June beetles appears to deposit its eggs in the ground again. The grubs themselves cannot fly, nor do they wander very far, so that every one killed lessens the amount of damage done.

The Apple Crop.—Over a large extent of country, fruit growers will have little time to devote to the gathering and storing of their Apples, yet in a few more favored regions the crop is bountiful, and, as prices will no doubt rule high, extra care should be used to secure all in the best order possible. The great demand for American Apples in Europe, and the all but certainty of obtaining remunerative prices for well grown, carefully and timely picked, and properly packed fruit, with the equal certainty of loss when carelessly handled, have taught fruit growers the necessity of bestowing the utmost care upon every detail connected with the harvesting, storing, and packing of their orchard crops.

Picking Apples.—As a rule Apples should be picked as soon as, or a little before, they are ripe; that is, when they separate easily from the tree.

Keeping Apples.—Whether Apples are headed up in barrels or spread on shelves, the place in which they are kept must be as cool as possible, without actual freezing; it should also be dry and dark, and everything in it must be kept scrupulously clean.

Keeping Grapes.—In Europe, Grapes are preserved fresh a long time by cutting the bunches with a piece of the cane attached, the lower end of which is placed in a jar filled with water.

CHARLES DOWNING FOR HOME MARKET.

It is a fact well known to every practical Strawberry grower that soil and climate have a noticeable influence on the growth and productiveness of the leading varieties of Strawberries. Certain kinds grow rank and produce bountiful crops in one locality, while in another, under similar culture, the same varieties fail, both in growth of plant and yield of fruit.

There are, however, a few exceptions to this rule, as may be witnessed by the Wilson, that thrives everywhere under good cultivation. The shipping qualities and large yield make it popular and profitable to growers whose places are long distances from market. For these reasons the Wilson is as popular to-day as it was twenty years ago. It would be safe to assert that in extent of surface planted now in this country the Wilson stands as a hundred to one, that is, for every acre of any other variety planted there are one hundred acres of the Wilson. This is not on account of the quality of the fruit, for usually it is as sour as old cider vinegar. It is solely owing to its uniform yield and firmness for shipping.

With Strawberry growers near to market the matter of firmness is not of as much importance as the quality, productiveness, and uniformity of size. My own fruit farm is located only two miles from the city of Newark, New Jersey, which has a population of one hundred and forty thousand, and eleven miles from New-York. In either city our fruit is delivered by our own wagons. Ten years ago I stopped planting the Wilson, and in its place planted Seth Boyden, Agriculturist, Triomphe de Gand, Charles Downing, and still later added Great American, Green Prolific, Sharpless, and the Crescent. From year to year I kept on discarding for field culture one or more of those kinds, until six years ago my list was reduced in numbers to one variety, and that variety was the *Charles Downing.* Many of my neighbors, practical and intelligent growers, were amused and somewhat surprised at my choice in selecting this one, throwing aside such berries as the Seth Boyden, Great American, and Crescent. But since then I have contiuued with the Charles Downing, increasing the acreage, and have grown in a single season as many as one thousand bushels of this variety, and have never had any difficulty in finding a ready and a paying market. My neighbors, who have been eye-witnesses to the results with this variety on my place, have changed their former opinions about the merits of this berry for a home market; and now they have more surface planted with it than they have with any other variety.

The Charles Downing, when grown under high culture on my farm, is rank and vigorous in foliage, the fruit stems strong and upright, and the crop of fruit always large. The berries are above the average in size and, what is still better, when grown for profit, the last picking will nearly equal the first in appearance; or, in other words, there are no "culls" or deformed fruit, as happens to be the case always with the Seth Boyden and some of the other large varieties. I am so well satisfied with the Charles Downing that last spring I set out over forty thousand plants. This, too, with the knowledge of the fact that the Mount Vernon, Manchester, and Bidwell were promising rivals, all of them having been indorsed in complimentary terms by well-known horticulturists in different sections of the country. But in my own case, I must see more proof than came under my observation this year before I will throw aside the Downing for either of these new kinds

P. T. QUINN.

MARKET AND SHIPPING BERRIES.

In describing new fruits there is frequently a deplorable vagueness of terms displayed, which leaves the reader entirely in the dark about the real facts, and results not seldom to the detriment of the introducer.

The terms "Market" and "Shipping" berries are generally used as synonyms, which is a great mistake. A berry may be excellent for shipping purposes and yet be a very poor market berry. All that constitutes a good "shipping berry" is firmness, while in a "market berry," for the great fruit centers of the country, size and good appearance are of first consideration.

Small berries, however excellent shippers they may be, find but slow sales when they come in competition with larger ones. Neunan's Prolific, the "Charleston Strawberry," for instance, which is probably the best shipping berry in existence, is only salable here as long as other varieties are not to be had; but as soon as the larger berries from Virginia make their appearance, it cannot any longer be sold profitably. On the other hand, the Sharpless, which is of inferior quality and a poor shipper, is in its season one of our leading market berries. The Crescent is one of the most profitable market berries, but worthless for shipping.

PROPAGATING GRAPES FROM SINGLE BUDS.

A very simple method of propagating Grapes practiced at the Geisenheim School of Horticulture, on the Rhine, is described by C. A. Keffer, in the *Rural New-Yorker,* as follows:

Thoroughly ripened canes are cut in the fall, and packed in sand until January and February. They are then brought to the propagating house and cut for potting—a single bud in each pot. The piece is prepared with a slant cut through the cane, beginning half an inch from the bud on each side, and cutting toward it. This gives a blunt, wedge-shaped form, the bud being on the longest side. Small thumb-pots are used, which are filled half with sandy soil, and then to the top with clean sand. In this the cutting is planted in a slanting position, so that the bud is just on the surface.

The pots are then plunged to the tops in the sand of the propagating benches and a steady bottom heat of eighty-eight degrees is given them. They are watered freely, and soon take root, though in this there is great irregularity, some varieties rooting much quicker than others.

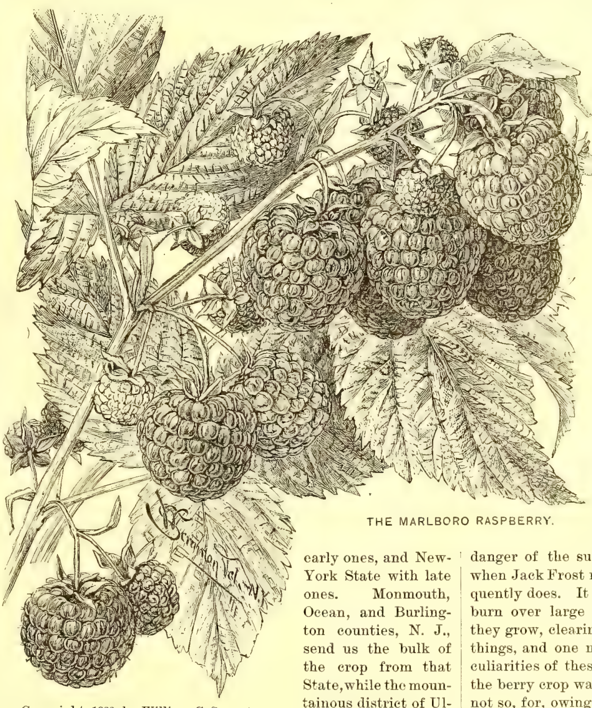
As soon as the roots show against the pot they are transplanted in a light, sandy soil, and taken to the hot-house, where they are kept close to the glass to insure the most perfect sunlight. As the subsequent repottings occur, the young vines are gradually acclimated to a cooler atmosphere, and accustomed to a stronger soil, and are finally planted in nursery rows, where they receive careful culture.

THE MARLBORO RASPBERRY.

The gradual decline of the once famous Hudson River Antwerp, in the most favored regions of the Highlands of the Hudson even, has caused among fruit growers an anxious search for some new and hardier kind which could take the place of that time-honored and excellent Raspberry. Dozens of claimants have from time to time presented themselves for the honor, but none have as yet filled all the requirements of a first-class market and shipping berry. They were either too small or too soft or too tender, or possessed of some other defect which unfitted them for the purpose.

Our illustration represents a new and highly promising variety,— the Marlboro,— the development of which we have watched for several years with considerable interest. It is a cross of the last one of a long series of seedlings, raised by Mr. A. J. Caywood, of Marlboro, N. Y., and the Highland Hardy. These seedlings were started from the old English "Globe" and the "Hudson River Antwerp," over thirty years ago, this being the sixth generation.

"The Marlboro," says Mr. Caywood, "is the largest grower, with stronger canes and side-arms, of any known variety. After being tied to stakes all winter, having no protection, the branches from the terminal buds, at the height of eleven feet, have borne as fine fruit as any other down the cane. It is hardy in the fullest sense. The side branches are two to three feet long, with clusters occurring on short joints more than half-way down, and are of unusual strength, bending with a heavy load and not breaking. The size of its dark-green foliage is one of the means of its early, regular, and late bearing, and size of fruit, which is one-quarter larger than the old Hudson River Antwerp.



THE MARLBORO RASPBERRY.

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"The berries, which are of bright scarlet color, average three-quarters of an inch in diameter, and, when not retarded by long and severe drought, one-third of them will measure an inch. They are free from the strong, musky aroma of the Antwerp, and are considered by all as delicious in flavor. Unlike any other, they will remain four days on the bushes after ripe, and are still marketable. Growers here have picked them from the ground and declared they were in shipping order. In quantity of fruit they exceed any variety we have ever handled."

The extraordinary vigor and healthiness of the large foliage of the plants, as we saw them on Mr. Caywood's grounds, impressed us very favorably, and the bushes, although past their prime, were still loaded with an abundance of large, delicious berries.

We are informed that, as the stock of plants is as yet small, plants will not be offered for sale before another year.

THE HUCKLEBERRY.

Although this is a wild fruit, it is a great favorite in all large cities where it can be obtained. In New-York there is no cultivated berry more popular, and the quantities used for pies are simply enormous. One firm of bakers in our city frequently uses as many as twenty-five bushels per day; and during the season when they are cheapest, they contract for hundreds of bushels to be canned for spring and early summer use, while the fruit is selling at a high price.

As a rule, our market is well supplied from Delaware, Maryland, and New Jersey with early ones, and New-York State with late ones. Monmouth, Ocean, and Burlington counties, N. J., send us the bulk of the crop from that State, while the mountainous district of Ulster and Shawangunk furnish most of the supplies from this State.

The first arrivals sell at high prices,— say from six to eight dollars per bushel,— and when the price rules at four dollars, they sell quickly; but quantity governs the price, and frequently they sell for a dollar and a half per bushel. The Delaware shippers send their fruit to market in the quart berry-basket and crate. The New Jersey people in eight and sixteen-quart boxes. The eight-quart boxes are packed in cases from four to six each; some of these cases have hinged covers, others have simply rough boards nailed over them. The sixteen-quart boxes are open at the top, with a single narrow slat across the top, to prevent the fruit from becoming bruised. The mountain boxes are not so deep as the Jerseys, but broader, and have a lid to them. All these packages are returnable to the shippers when emptied.

There are several varieties of Huckleberries, which are received in due order of ripening.

The first to ripen in New Jersey is the "Blueberry," grown on the higher lands. They are small and sweet, and are covered with a beautiful bloom, and, owing to their firmness, ship well. The variety known as "Swamps" are the most popular if they arrive in fine condition; but as they are soft, they often arrive in a very "mussy" condition, and have to be sold to the bakers. This variety is the largest of all, and should always be picked with care, and shipped in small boxes.

The "Cracker" is a black, tart berry, and full of hard seed, good for cooking, and a favorite for shipping on account of its firmness, but not popular with city consumers. The "Dangleberry" is also large, with a bright blue skin, slightly acid, firm, and sells well when picked free from the long stems on which they grow, and from which they derive their name, Dangle.

A later variety is known as the "Shiney Blacks." They are large, firm, slightly acid, and, as the name indicates, black and glossy, and last till frost destroys them, being frequently found in New Jersey, where they are known as "Hogberry"; they are sometimes picked and shipped, but they possess little merit, and sell slowly, as they are tasteless, dry, and hard.

The Huckleberry is not cultivated, nor does there seem to be any danger of the supply falling short, except when Jack Frost nips the fruit, which he frequently does. It is quite common that fires burn over large sections of country where they grow, clearing the ground of all green things, and one not acquainted with the peculiarities of these fires would conclude that the berry crop was ruined for all time; but not so, for, owing to the thin growth of vegetable matter on the surface, much of which is quite dry, the fires run over it with the rapidity of a race-horse, so that the roots of these bushes are not destroyed

When a fire takes place in early spring, succeeded by a rain, the roots start almost immediately, and by fall get a good growth; so that the following season some of them begin to bear, and from the second to the fifth year produce the best crops of fruit. Viewed from this point, these occasional fires are a benefit rather, causing a renewal and continuance of the crop.

Attempts to improve the Huckleberry by cultivation have occasionally been made, but not of sufficient extent to show whether they could not be cultivated profitably. Experimenters in this direction should rely more upon seedlings than transplanted bushes.

C. W. IDELL.

The Flower Garden.

AUTUMN TOKENS.

By the golden dreamful weather,
By the birds that fly together,
Dark against the radiant sky,
By the silence growing deeper,
By the resting of the reaper,
Pleasant days are drawing nigh.

By the vagrant way-side brier,
Flinging far its tangled fire,
By the forest's motley line,
Royal Oak and Maple splendid,
Holding stately court, attended
As for pageant, rich and fine.

By the Asters, incense bringing,
By the Morning-glories' swinging,
And the spicy fragrance shed
From the Grape, whose purple cluster
Captive holds the vivid luster
Of the summer scarcely fled.

Pleasant days are coming nearer,
Days when home will seem the dearer
That its circle smaller grown,
In its happy talk and laughter,
Or its sighs, low stealing after,
Narrows to enfold its own.

Blithe, for music, work and study,
Then will glow the hearth-flame ruddy,
What though wild the wind may blow;
Always there is golden weather
When true hearts are met together,
Though without the storm be snow.

All the autumn's wondrous shading,
Ripened hues, and gentle fading,
All the birds that southward fly,
Speak to us, with sign and token,
Say, in words we hear, unspoken,
Pleasant days are drawing nigh.

SEASONABLE HINTS.

Replanting Perennials.—After a good soaking rain is an excellent time to divide and transplant spring-blooming plants, as Rock Cress, Moss Pink, and Aubrietias; it gives them an opportunity to establish themselves before winter sets in. But Bleeding Heart, Spring Adonis, Pæonias, and others, with thick roots, and which die down in winter, may be transplanted with good enough success any time before winter sets in.

Herbaceous Perennials are much benefited by being transplanted every second year. Big masses are seldom as thrifty or bloom as full as do medium-sized clumps. It is therefore advisable that, in the case of Phloxes, Pentstemons, Bee-Balm, Campanulas, and the like, they be lifted, cut up into four or more clumps each, and planted afresh in deeply worked, enriched soil. And it will often be observed how luxuriantly the shoots arising from the outer parts of the clump are growing compared with the impoverished condition of those arising from the middle.

Transplanting Seedlings.— Around your Sweet Williams, Fox-gloves, Larkspurs, and Canterbury Bells, you will now find many little seedlings. Pick up a number of these and prick them off into boxes, or rather closely in a well-prepared little plat, where they can be shaded with branches till they get started again. Seeds of most perennials may still be sown, and will produce good-sized plants, strong enough to stand our winters. When seed is not to be saved, plants should never be allowed to bear seed.

HARDY FLOWERS.

At this time of year our bedding plants are at their best,—Dahlias, Gladioluses, Tigridias, and Cannas are in blossom and brighten up our yards, and China Asters, Zinnias, Marigolds, Salvias, Petunias, and many other annuals, contribute largely to the display. And among shrubs, the White Alder, Sorrel Tree, Chaste Shrub, Spiræas, Hydrangeas, and Hypericums yield lots of showy flowers; some Roses bloom again; and the Trumpet Vine, Japanese Honeysuckles, and Clematises in floral beauty clothe our pillars, screens, and trellises.

But, apart from the above, we have a host of hardy herbaceous perennial plants that blossom full at this time, and which alone would make a garden gay enough. The Golden Columbine lingers with us still; the tall Phloxes, if well fed, will last until the month is out; our Swamp Lily *(superbum)* is being substituted by Tiger and *speciosum* Lilies; Great Blue Lobelias and Cardinal Flowers are lovely in moist and faintly shaded places, where, too, Lyon's Shell-flower delights to grow. The Western Spiderwort in endless forms has been in flower for weeks, and, if in moist ground, shall last in good profusion for weeks to come. The single and double flowered tawny Day Lilies are in full flower, and have been for some time; blue Funkias are profuse enough; and the white Day Lily *(Funkia)*, so sweetly fragrant, shall soon be out. Perennial Larkspurs have done blooming, except some side shoots and new sprouts where the old stems had been cut back. The variegated flowered *Aconitum* is one of the prettiest flowers of its season; *A. Lycoctonum* has yellowish flowers and *ferox* blue ones, and both are in full blossom now. *Clematis Davidiana* is a fine herbaceous species from Northern China, with a profusion of blue, hyacinth-like, deliciously fragrant flowers, now in full beauty. The brilliant Bee-Balm is still in good condition in moist ground; so, too, are *Œnothera fruticosa* and its varieties. The latter have bright yellow day-opening flowers, and, unlike the Evening Primroses of the same genus, they do not keep open at night. The Wild Senna in sunny places is past its best, but in moist and shady localities it is now at its showiest.

Chinese Pinks, of one or two years' duration, continue to blossom brightly. Ewers' Sedum has terminal heads of rose-purple flowers, but Siebold's, or the *spectabile* Sedums, have not opened yet. Many of the tall-stemmed Speedwells are still in blossom, but the very best and most showy of the set now in bloom is *Veronica longifolia*, var. *subsessiles*. Its flowers are large, deep bright blue, and quite showy. The late-blooming form of the Broad Bell-flower *(Platycodon)*, with blue and white, single and double flowers, is in fine condition, and the largest and best of all hardy Statices *(latifolia)* is opening its buds. It will remain in blossom till October. The deep-blue flowers of Larpent's Plumbago are expanding, the Mountain Mints *(Pycnanthemum)* are at their best, and the Japanese Skullcap is one of our prettiest bluish flowers. The Meadow Beauty is pretty still; so is the Pleurisy Root and red and purple Prairie Clover. The double flowering Sneezewort is white, pretty, profuse, and one of the best and most lasting flowers for a groundwork in florists' designs.

Then there is the host of showy flowering Composites—Sunflowers, Coneflowers, Asters, Eupatoriums, Iron-weeds, and the like, whose greatest fault is their rankness and their commonness. Add to these a multitude of odds and ends, as Mallows, Lychnises, and Scabiosus, that continue to blossom more or less after they have yielded their main crop of flowers, and surely the simplest garden can be gay enough.

WM. FALCONER.

LIFTING PLANTS FOR WINTER FLOWERING.

Plants which have been grown for winter flowering should be lifted before cold weather sets in. *Carnations* are often almost completely destroyed for flowering during winter by leaving them out until they have been exposed to severe frosts. To insure free flowering for the longest possible period, they should be placed in winter quarters upon the approach of the first frost. *Stevias, Eupatoriums*, and all tender plants, should be lifted and potted in good time, but kept cool and exposed out-of-doors as long as possible; for, although they will not endure frost, they succeed best when kept as cool as possible, and plenty of air is given them at all times. If kept in a close atmosphere, they "draw up" with weak shoots and still weaker flowers. Plenty of light and air on all suitable occasions are the principal conditions to insure success with this class of plants.

Lifting plants should be done, if possible, on cloudy days. Some people prefer to lift plants on wet days; this is proper enough when the plants are growing on sandy soil, but if growing on soil having a good proportion of clay in it, it is not advisable. The soil around the roots is liable to get hard and remain so, in consequence of which the roots have considerable difficulty in making a start in the hardened mass. Plants growing in stiff soils should be lifted when the ground is damp, but not wet. With sandy soil it is different; from such, plants may be lifted at any time. If dry, the soil will fall from the roots and leave them uninjured; and if wet, it will cling to them, but does not harden as in clayey soils.

Roses for flowering during winter should be lifted early in the season, so that fresh roots can be made before they are placed in high temperature. Every grower of Roses knows it is useless to expect success with them without plenty of good, healthy roots.

Large plants of *Heliotrope* can be lifted and placed on benches without suffering much from the change, if care is taken to mutilate the roots as little as possible, to keep them from exposure to drying winds, to cut back the leading shoots in proportion to the mutilation of the roots, and to keep the atmosphere of the house moist until fresh roots and new shoots are started. If placed in a part of the house where plenty of sunlight can be given them, they do not need as high a temperature as most people suppose necessary to insure an abundance of flowers during the winter months.

All plants intended for pot culture during winter, and requiring pots over six inches in diameter, should be well drained with broken pots, charcoal, or any material suitable for allowing the moisture to pass off freely. Unless the water passes freely through the soil the plants do not thrive well.

M. MILTON.

THE FLAME FLOWER.

Tritoma Uvaria.

These stately plants, with their tall, showy spikes and brilliant fiery-crimson flowers, are now at the height of their glory, and if appropriately grouped in a border or on the lawn form one of the most attractive objects during autumn, and sometimes early winter even, long after light frosts have destroyed all tender vegetation.

They will grow in any well drained soil, the deeper and richer the better. Old plants may be taken up after blooming, divided and replanted again; but unless the ground is very dry and warm, spring planting is to be preferred. North of this latitude, they are not entirely hardy and, to be on the safe side, their roots should either be taken up before severe frosts occur, and wintered in a cold-frame or moderately warm cellar, or well protected with leaves or some other light mulching material.

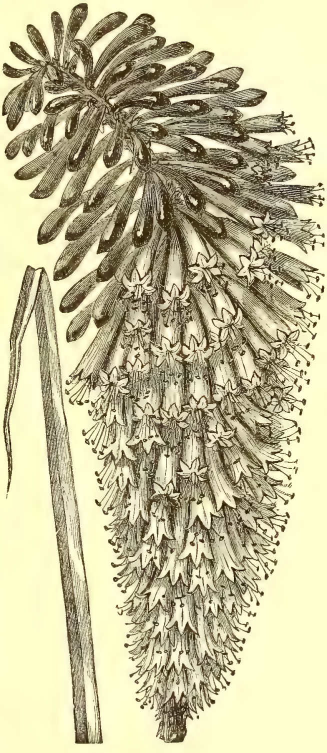
TULIPS.

When a rich and brilliant display of color, combined with simplicity of culture, is desired in early spring, nothing assures it as readily as that old-fashioned flower, the Tulip. Old-fashioned, did I say? Yes, old-fashioned; for the Tulip has been known and cultivated for centuries. Who has not heard of the "great Tulip mania," when, perhaps, it obtained a stand in history never to be superseded by any other flower? It was first brought from Turkey, and, as may be supposed, was vastly inferior in shape, size, and color, to our present magnificent varieties.

The original plant was a dull turkey-red, plain and unattractive. Being cultivated for some years, and new sorts produced, it was first brought into prominence by the "great Tulip mania" of 1634, when single bulbs of rare varieties sometimes sold as high as £75, or nearly $400! Fancy, paying such a price for Tulips which, on account of the great improvements since made, are fully equaled if not excelled, in every way, by those we can now obtain for a few cents from any reliable dealer! This is saying a good deal; but those old fabulous prices were for qualities rather more imagined than genuine. A new variety produced in those times by a celebrated grower was sufficient guarantee that it would sell at a high figure.

Now, when our "old country" forefathers went crazy over the Tulip, and prized it so highly, is it not strange that it is not more cultivated and admired at the present day? Of course it is grown to a large extent; but what we mean is that we have known, and do know, scores of persons who, to-day, would give instant preference to the Hyacinth, the Narcissus, or even the humble Crocus. We do not wish to say anything derogatory to those truly beautiful and valuable bulbs. But everything in its place. We hold that Tulips, considering their cheapness, ease of culture, and satisfactory results, are superior in these respects to all other Holland bulbs.

In selecting a situation for a Tulip-bed, be sure and locate it where there will be no standing water or superabundant moisture of any kind. Good and quick drainage is absolutely necessary to satisfactory results from almost any class of bulbous plants. Make the soil light and loamy, but do not incorporate *fresh* manure. Thoroughly pulverize all lumps, removing stones, grass, etc., and rake over carefully. At the same time, bring up the soil on a gradual slope to the center of the bed, on a gradient of about an inch and a half to the foot. When this is done, take your bulbs, which, by the way, should be fresh, solid, and well filled out, and arrange them on the surface to suit taste. Of course, this arrangement depends altogether upon the size and shape of the bed. To secure the best show, they should be planted about six inches apart, although we have seen many magnificent beds with the bulbs fully twice that distance. If they are mixed varieties, of course choice in the arrangement of color is not called for; but if you have, say, white, orange, scarlet, and purple, place the white around the border, orange next, etc., etc. Dark colors should always be in the center. Then take each bulb and press it carefully but firmly into the soil to the depth of about three inches. When all is done, smooth the whole bed over lightly with the back of the rake. Nothing further is necessary until freezing time arrives. As soon as the frosts are heavy enough to stiffen the ground, cover the bed with dry leaves, straw, or litter, and add a few forkfuls of coarse stable manure, branches, sticks, etc., to hold the covering in place and prevent the wind from removing it.



TRITOMA UVARIA.

Now you may retire to your winter quarters, and contemplate your future bed in your mind's eye. Let the wind blow, the earth freeze, and the snow blizzard; but when old Sol at last softens the bosom of mother earth, and you uncover the bed to the warm rains and bright sunshine of April, there will be your Tulips, each with a curious little red nose sticking above the black soil, and ready to shoot up and into blossom; and almost before you realize it a magnificent display of showy blossoms will be spread before your admiring gaze.

Before closing, let us say that, for bedding purposes, always select "Single Early Tulips." The Parrots and Duc van Thols are also very fine. Double sorts are good for small masses, but, as a rule, only about half the plants come to perfection, and this spoils the general effect, unless the bulbs are planted very close. Late Tulips, except in rare cases for pot culture, are not as satisfactory in the open ground as the earlier blooming varieties.

H. GILLETTE.

ARRANGEMENT OF FLOWERS.

Of all the various mistakes made in arranging flowers, the commonest is, says the *London Garden*, that of putting too many into a vase; and next to that is the mistake of putting too great a variety of colors into one bouquet. Every flower in a group should be clearly distinguishable and determinable without pulling the nosegay to pieces. Sweet-peas never look so well in the hands as they do on the boughs over which they climb, because they cannot be carried without crowding them; but put them lightly into a vase with an equal number of Mignonettes; or, rather, ornament a vase half full of Mignonette with a few blooms of Sweet-peas, and you get a charming effect, because you follow the natural arrangement by avoiding crowding of the blooms, and putting them with the green foliage, which they want to set them off. Few people are aware until they try it how easy it is to spoil such a pleasing combination as this. A piece of Calceolaria, Scarlet Geranium, or Blue Salvia would ruin it effectually. Such decided colors as these require to be grouped in another vase, and should not even be placed on the same table with Sweet-peas. They also require a much larger preponderance of foliage than is wanted by flowers of more delicate colors. It is unquestionably difficult to resist the temptation of "just putting in" this or that flower, because "it is such a beauty." A beauty it may be — and so may be an Apricot; but it would be out of place in a basin of green Pea-soup! There is at least one proper place for every flower; then let every flower be in its proper place.

HOP COMPOST.

Spent hops from a brewery, composted with equal parts of sods or loam and stable manure, make an admirable soil for most plants. Complaint is made that they "sour." Alone, they are somewhat ascescent; but, if you add wood-ashes or carbonate of potash, you neutralize acidity and increase the value of the compost. An addition of a quart of bone-meal to the bushel makes it one of the best compounds for Tea-roses, whether in pots or the open ground.

T. D. E.

Lawn and Landscape.

THE NEW HYDRANGEA.

The *new* Hydrangea, I have headed this article. Perhaps the adjective is not appropriate, as I believe we have later acquisitions from the Hydrangea family than the one I refer to; but when its absence from most gardens or lawns is taken into consideration, it is proper to call it new, for it is of such recent introduction that but few specimens of it are to be found, at least here at the West. When its merits become more fully known, it will be one of the most popular of all our shrubs. It deserves to be.

My specimen of the *Hydrangea paniculata grandiflora* — a long name for a very charming plant — was a small one when I obtained it, five years ago. I set it in ordinary garden soil, and the first summer it made quite a growth, but did not bloom. It sent up three or four strong shoots, and the leaves had such a coarse look that I was disappointed in it, thinking it was likely to prove a weedy sort of a plant. I supposed it to be tender enough to need protection during the winter, and intended to lay it down and cover it, but something prevented my doing so; and as that winter was one of great severity, I felt sure my Hydrangea would be dead when the time of "green things growing" came again. But not a bud was killed on it, and I have no hardier shrub in my garden than this has proved to be. It will stand anything the Lilac will, and that every one has long considered to be an "ironclad" among garden shrubs.

The second summer, my Hydrangea had three heads of flowers, and, for a wonder, I found that they came fully up to the description given of them in the catalogues, in size and beauty. We have come to read florists' descriptions of new flowers with several grains of allowance, attributing the difference between the flower as it is described and the flower as we see it to a very vivid imagination on the part of the florist, and a lack of imagination on our part. But in this case, the new plant brought no disappointment. We were delighted with it, and we saw that there were great possibilities in the small shrub which bore such great clusters of snow-white flowers. We saw that a profusion of bloom depended largely on a luxuriant growth, so we dug about the plant, and enriched the earth it grew in, and encouraged it to do its best the next spring. We cut out all the small, scraggly branches, leaving only the more robust ones. This being a fall bloomer, and the flowers being borne on a new growth of wood, whatever pruning is done should be done in spring before growth begins, or in the fall after the period of blooming is over.

The third season, nearly a dozen shoots were sent up from the roots, and as the soil was rich, they grew rankly, and had reached a height of three or four feet by the time they began to show signs of buds. They were stiff and erect as any grenadier of the Old Guard, and hadn't a very graceful appearance; but as the buds grew and the flowers began to open, the weight of the clusters bent the branches into graceful curves, and there was no shrub in the garden that had less primness in it. The heads of pure white flowers, containing hundreds clustered closely together, were like tossing plumes as the wind dallied with them; and many a man and woman stopped, as they drove by, to ask what that beautiful flower was. I could have given away a hundred "slips," if I had seen fit to spoil my plant by cutting it up to gratify its admirers.

For a conspicuous place on the lawn, I know of nothing better; and it blooms in the fall when we have few other flowers from shrubs. The last summer, I encircled my plant with scarlet geraniums, and the contrast and effect was remarkably fine. Its culture is of the easiest. Give it rich soil, keep up a vigorous growth from spring to blossoming time, and that is all you need to do.

EBEN E. REXFORD.

WHITE GRUBS IN LAWNS.

A subscriber writes from Southern California: My lawn has been looking elegantly until within two or three weeks when I noticed the grass suddenly dying in spots. On examination I found the ground actually alive with grubs from one to two inches long, with brown heads and white flabby bodies about half an inch in diameter, the same as I have seen in the East in Strawberry beds. In making the lawn considerable quantities of stable manure were spaded in the ground, and not long afterwards I noticed brown beetles about the size of May beetles coming from the ground.

Now, is the ground liable to be stocked with these grubs forever, or will they be likely to disappear after the present brood dies? Is there any remedy which will not interfere with the new growth of grass, as the old roots are all eaten off and consequently beyond redemption?

Answer by A. S. Fuller.

The grubs injuring your grass are the larvæ of the May beetle, *Lachnosterna*, a very common insect, but only occasionally sufficiently abundant to do much harm to lawns and meadows. The female beetle deposits her eggs usually in meadows, pastures, and lawns where they are most likely to be undisturbed, and the young grubs find abundant food. For this reason newly turned sod land is to be avoided for Strawberry plantations, as the plowing does not kill the grubs, but it does kill the grass roots, leaving little for the grubs to eat, except the Strawberry roots, which they soon destroy. The grubs remain in the ground three years and then come out in the beetle state as seen flying about and into our rooms during the months of May and June.

It is very difficult to destroy the grubs in the ground, for any application like salt, lime, or poisons, if put in sufficient quantities to reach the grubs would certainly destroy the grass. A heavy, iron roller passed over the ground every two or three days or oftener will help to keep the pest in check, as well as crush many of the grubs. It might also be well to take up the dead sod and gather and kill the grubs by hand and then put down fresh sod from some other locality, but we are inclined to think that the grubs will not be exterminated until they have passed through their various stages and come forth as beetles, which should be destroyed by all available means.

PROPAGATING HALL'S HONEYSUCKLE.

It may be interesting to many readers of THE AMERICAN GARDEN to learn with what ease the beautiful *Lonicera Halleana* can be propagated. Last fall I made cuttings, from that season's growth, and planted them in boxes of sand, where they soon made root, and were transplanted to small pots. Having no other accomodations for these plants, they were kept in the cellar until spring when they were planted out and now are strong thrifty vines.

I had often tried to raise seedlings by planting the seed in autumn, and also in the spring; but until this season I did not meet with success. Last fall I gathered berries from the old vine and planted them *whole* in a box of loose soil and kept it in the cellar until spring. I then removed it to a shady place in the garden, and have transplanted from this box one hundred and eighty plants.

When we consider these facts, is there any reason why all those who are so fortunate to have homes, should not have their verandas covered with this charming vine. Sometimes winter kills the tops in northern climates, but as it readily sprouts from the roots and blossoms from new wood, this single weakness counts but little against its deliciously fragrant and beautiful white and yellow flowers, its dark green, almost evergreen leaves, and its many other desirable qualities.

H. C. F.

THE BEST LAWN GRASS.

Which is the best grass for lawns? is a question frequently asked. For a single kind nothing is better than Kentucky Blue Grass, *Poa pratensis*; but a mixture of equal parts of this and Red Top, *Agrostis vulgaris*, is to be preferred. These make an even, uniform growth, while, if coarser grasses are added to the mixture, a smooth, velvety greensward cannot be maintained. A small addition of Sweet Vernal Grass, *Anthoxanthum odoratum*, although not adding materially to the luxuriance of the lawn, is desirable on account of its delightful "new-mown hay" fragrance.

A LARGE AMELANCHIER.

G. P. Davis reports to the Torrey Botanical Club the discovery of a Shad-tree, *Amelanchier Canadensis*, of extraordinary size. The tree stands in a meadow in the town of Glastonbury, Conn., and is of the size, proportions, and general appearance of an uncommonly fine old Sugar-maple; its circumference measures eight feet eight inches, at three feet six inches from the ground, and the spread of its branches is forty-eight feet in diameter. The tree was in full bloom on the 19th of May, and must have been a sight worth going a good distance to see.

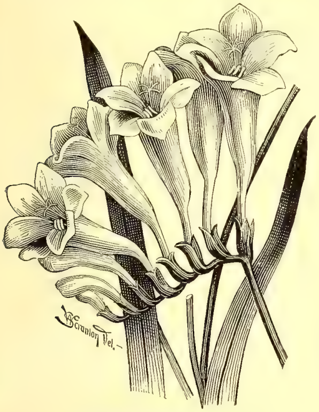
TRANSPLANTING MAGNOLIAS.

A subscriber asks: "I wish to transplant a Magnolia; shall I take it now, or wait till spring?" By all means wait till spring. Magnolias should never be moved in autumn. As early in spring as it can be dug, lift it carefully, so that all the small, fibrous roots are preserved; protect them against sun and wind, and move to the new location with as little delay as possible. Magnolias thrive best in dry, warm, and rich soil.

The Window Garden
AND GREENHOUSE.

FREESIAS.

In the zealous search for novelties adapted to winter-forcing and to supply the insatiable demand for cut flowers, many hitherto neglected, though beautiful plants, have lately come to notoriety. Among those recently brought to notice, none are more beautiful nor deserving more attention than the Freesias.



FREESIA REFRACTA ALBA.

The plant grows from a small bulb to a height of about fifteen inches, and produces a great quantity of deliciously fragrant, tube-shaped flowers, borne in peculiar, one-sided racemes. The color of the flowers of *F. refracta alba*, the species represented in our illustration, is pure white, spotted with yellow on the lower petals.

Their culture is very simple. In September or October they should be planted in ordinary potting soil, such as is used for Holland-bulbs, about six bulbs in a six-inch pot. They have then to be thoroughly watered and kept cool and only moderately moist until growth commences, when more water should be given, and the pots removed to a warmer place. The succeeding treatment is exactly like that given to Hyacinths or Tulips forced in the house. Those planted in September may be had in bloom in January. After flowering, water should be withheld and the bulbs dried off, to be started again the following autumn.

For florists' work these flowers are remarkably well adapted, not only on account of their rare beauty and delightful fragrance, but also for their unusual keeping quality, on the plant as well as after being cut.

GLORY OF THE SNOW.

The *Chionodoxa Luciliæ*, which is the botanical name of this charming spring flower, is a native of Asia Minor, and is nearly allied to the genus *Scilla*. Its azure blue flowers with pure white center are produced with the earliest opening of spring while snow lingers yet in many sheltered spots.

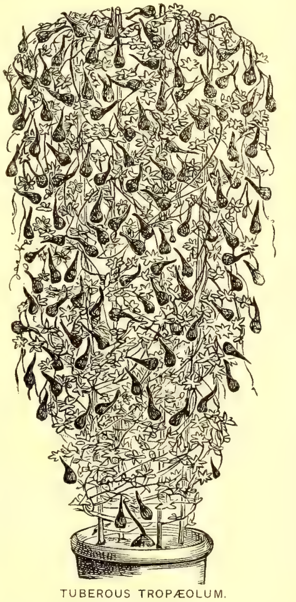
For outdoor culture the bulbs should be planted form one to two inches deep, in October, in rather light soil where there is no danger from stagnant water. The bulbs, although hardy, will flower much better if lightly mulched during winter. To produce best effects, they should be planted rather close together and left in the ground undisturbed for several years.

They are also well adapted for pot culture in the house, requiring about the same treatment as Crocus.

TUBEROUS TROPÆOLUMS.

The common Nasturtium (*Tropæolum*), in its many species and varieties, is a popular garden annual, but many of our readers probably do not know that there are perennial species with tuberous roots. The flowers of these, it is true, bear little resemblance to those of the gardens, but they are far more delicate and beautiful. Most of them are only suitable for pot culture in the greenhouse, but some planted in the garden in early spring bloom before autumn; and if the tubers can be kept from freezing, and at the South, increase, come up year by year, and soon make very beautiful plants.

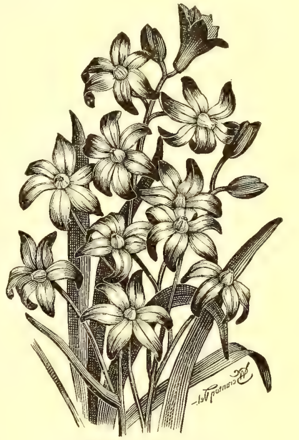
All are climbers and are very useful for covering rustic work. These species are, *Tropæolum tuberosum, speciosum, polyphyllum,* and *edule.* All bear bright orange, yellow, or red and yellow flowers in great profusion. *T. pentaphyllum* differs from the true Nasturtiums in having the fruit a juicy berry instead of a dry seed. It is a very pretty climber with green and scarlet flowers, and succeeds in the garden as well as the species we have mentioned.



TUBEROUS TROPÆOLUM.

The culture is to plant the tubers in May, after the weather has become warm, in light soil, in a warm sheltered situation; cover the spot well to keep out the frost, on the approach of winter; or after the frost has killed the plant, take up the tubers and keep them dry until the time of replanting. One who has not seen them can form little idea of the beauty of these plants. *T. speciosum* is the best, but all are very good.

The other class have small roundish tubers, are winter bloomers, and are only fit for greenhouse culture. Although the roots are small they produce a large plant, and to accomodate the necessary trellis a pot not less than twelve-inch should be used. Fill this with rich, light soil and secure good drainage. Place the tuber in the center of the pot, the top level with or slightly above the surface of the soil.



GLORY OF THE SNOW.

The threadlike stem will soon start and a trellis should at once be provided, around which the growth should be trained *daily*. Syringe freely to keep off red spiders. In a light, airy situation, with gentle waterings, this growth is very rapid, and if it once becomes tangled it is almost impossible to untwine it without injury. This stem, at first fine as a hair, soon thickens and a small bulb will soon cover a balloon trellis, which is best adapted to display the flowers. If well grown, the flowers will be produced by hundreds, and a prettier sight it will be hard to find in the greenhouse. After the bloom has faded, the foliage turns yellow and the root should rest and be kept dry until the season for replanting. If water is not withheld at this period, or the plants are overwatered when in growth, there is danger of the roots rotting.

T. Jaratti has scarlet, yellow, and black flowers; in *T. tricolorum* they are orange, red, and purple, and in *T. brachyceras* they are bright yellow. These three are wonderfully showy plants and very beautiful. But the most beautiful of all and one of the loveliest of flowers is *T. azureum*, the flowers of which are bright blue and delightfully fragrant, and look like double Violets. The discovery of this species in 1844 overturned a pet botanical theory. It had, with some show of reason, been asserted that no genus where the general color was yellow or red could have a blue flower; but *Tropæolum* is a striking exception to the rule.

All the species are increased by cuttings, which root in pure sand; also by seed which vegetates freely if the hard outer shell is carefully removed.

E. S. RAND, JR.

Foreign Gardening.

TROPICAL GARDENING.

There is but little dignity about gardening and farming in the tropics. It is true, there are great plantations of Sugar and Coffee, but the owners of them are either companies formed abroad, and represented by overseers and officers, or proprietors who are far too aristocratic to touch a hoe-handle or harness a team. The white man does not work in the warm latitudes. The farmer proper of the tropics is in the main little better than the slave whose place he occupies. In the West Indies he is invariably a negro; on the continent of South or Central America a half-breed, or rather a hybrid, the result of a couple of centuries of Indian, Spaniard, and negro cross-breeding. But wherever he is, he is always wretchedly ignorant and poor. He always farms in a very small way, and by the most primitive methods. An acre of ground constitutes a large farm. He never plows, the hoe and spade being his only tools. He raises Yams, and kindred indigenous vegetables, and very good crops of them, too, for he has a fertile soil to aid him. He never plants on poor ground. If he lives near a running stream, he generally has numerous trees of the Banana and Plantain. Though these grow wild in the tropics, they are improved by cultivation. The wild Bananas root close to the water's edge, and freshets may carry the plants away.

We have often seen a rude canoe slip by on some South American stream at early morning, carrying an old squaw, in a scarlet cotton gown and a cart-wheel hat, with a roll of tobacco-leaf between her teeth, and two bunches of Bananas for cargo. These bunches are all she has to sell, and she will travel twenty miles to dispose of them. The old woman is never without a naked boy and a lean dog for company, and, when the tide is fair, the party float along, carried by the current, and propelled by the wind blowing on a big Plantain leaf, which the boy holds upright for a sail.

Farming to such people is simply a means to an end, and that end is a bare living. They eat what little they raise, and only go to market in order to obtain such necessities as the little hardware or ammunition they use or the scanty clothing they wear. If the tropical public had to depend on them for material subsistence, they would starve.

There are small farmers, or market gardeners, who supply the markets. Twice a week they appear in town with their products, the extent of which would make an American farmer smile. It may be a donkey-load of vegetables, or a basket of fruit carried on the back or head. Its value never exceeds two dollars, and is often less than one. The heaviest loads seen in the tropical market are those of green fodder-grass, freshly cut, and piled up on the back of a patient donkey. On the summit the owner lounges at ease, while his poor brute hobbles along, directed by blows of a long pole on his ears. Viewed from the rear, the aspect of the combination of man, beast, and grass is very curious indeed. Green fodder is in constant demand, as every one with any pretensions to gentility keeps horses or saddle-mules.

Another curiosity of tropical farming is the Yam. There are two species: the finer, which is a very fair substitute for Potatoes when it is mashed, is small and succulent; the coarser is large, stringy, and tasteless. The stranger who sees these latter stacked up in a market-place, invariably takes them for fire-wood, and they are often dry and fibrous enough to serve for burning.

Such products as the small farmers of the tropics raise are all easily cultivated. Crops which require care, such as Cocoa and Coffee, are left to the more enterprising and enlightened foreigner, with a sprinkling of the higher-class natives. Even Sugar-cane is sparsely grown by the small farmer. The little he does raise is for sweetening his water and coffee. He simply crushes the cane by a primitive method from time to time, as he requires it. The unclarified juice, which he calls *guarapo*, is his only substitute for sugar.

Corn is raised to feed the horses and mules and to bake into cakes. The grass-fodder is too light for a constant diet, and draught or pack animals have to have some Corn daily when at work. For baking, the Corn is simply pounded in a hollow stone, mixed with water and salt, and cooked on a hot stone or iron plate, and usually rubbed with raw red pepper to flavor it.

No more picturesque or wretched picture can be conceived than one of the little farms of South or Central America. A hut of Palm boards, with a rotten roof of Palm branches, swarming with bats, scorpions, and other vermin, constitutes the farmer's home. The floor is of earth, the beds are frameworks of boards on which the inmates stretch without the effete formality of undressing. Hammocks are not as often seen as one would fancy. All travelers, however, carry them, and for a dime obtain the privilege of slinging them from the beams. Many farm-houses are mere sheds, with the sides open to the winds.

The farms themselves present none of the pleasing aspects of cultivated ground. The different crops are grown in patches, it is true, but rank, unweeded, and without care. Nature provides a soil so rich that man needs to give it but little labor; when, after years, the ground is worked out, the farmer opens another patch, for all is free.

Such a land as this would be a paradise for the intelligent and energetic northern farmer, but for the fact that in this enervating and malarial climate hard labor is deadly. The white man who settles here, and works as he is accustomed to labor in the cooler climate at home, soon dies, and only he who adapts himself to the listless climate survives.—ALFRED TRUMBULL, *in American Agriculturist.*

THE PAPAW.

The Papaw of the tropics is *Carica Papaya*, commonly called Mamaõ in Brazil.

The tree attains considerable size, but is very soft and short-lived. The foliage has the general effect of a Palm, and the tree has been described as such by some writers. It is a very rapid grower, attaining a height of fifteen feet in a few months from seed. When a forest or newly cleared land has been burned over in the Amazon valley this tree springs up as Raspberries do in similar cases in the woods of the northern United States. How the seed, which is the size of a very small Pea, gets to out-of-the-way localities, or preserves its vitality, is a mystery The flowers are light yellow; the males and females being on different trees. The fruit is orange-color, roundish or oblong, and the size of a small Melon. It is borne clustered all around the trunk of the tree, just below the great crown of leaves. The pulp is orange-yellow, soft, full of small, black seeds, and very sweet; indeed, it is so rich that one can eat but little of it. The juice of this tree has the peculiar property of rendering tough meat tender, and for this purpose the leaves or the green fruit are often boiled with the meat, or the leaves are rubbed over meat which is to be roasted, The green fruit boiled tastes like Turnips, and the ripe fruit is made into a very rich preserve with sugar. The rapid growth of this tree from seed suggests that it might be made available as a "subtropical" for summer planting in the gardens in the United States. Its foliage surpasses in effect anything now used for that purpose, and as a supply of seeds could readily be obtained, the experiment is worth trying.

E. S. RAND, JR.

HOT WATER FOR FORCING VEGETABLES.

Hot-houses are being widely introduced into Italy, says *Les Mondes.* In these, generally the air is heated, which again warms the earth. A Turin inventor M. Cirio has reversed the procedure and has run hot water through the earth which he wishes to warm.

The hot baths of Acqui are supplied by a hot spring. After the various purposes of the establishment have been served by it, this water still retains a serviceable amount of heat. Mr. Cirio has made at the side of the baths a garden inclosing five hundred square meters, and by means of earthenware pipes has made the water leaving the baths to circulate under the ground in all directions. He has planted 10,000 Asparagus, 4,000 Chicory, and many Lettuce and Strawberry plants.

The Japanese have adopted similar methods; the waters of hot springs about Tokio are about to be experimented with in a similar way, and the volcanic heat of certain districts in Japan is also to be utilized, by conducting the heated air from subterranean wells and bringing it to the surface.

TOBACCO JUICE VAPOR FOR PLANTS.

The *Scientific American* states that tobacco juice has been tested in France as an insecticide in greenhouses with great success. Instead of burning or smoking the tobacco, which is a very offensive process to some persons, the tobacco is made into an extract by soaking or boiling, and the juice is then placed over a chafing dish, a fire, or the flame of an ordinary lamp, and deposited in the greenhouse or conservatory. Delicate plants which are very sensitive to smoke are not injured by this vapor, and it leaves no offensive atmosphere; while it effectually disposes of thrips, lice, scale insects, and slugs. One quart of tobacco juice, vaporized in a house containing 350 feet, is an ample amount to clear it of insects.

Rural Life.

A BASKET OF GRASSES AND FLOWERS.

Grasses, even the most delicate, lose little if any of their light, graceful appearance by being carefully dried. This is best accomplished by gathering them before they have reached maturity, tying in loose bunches, and hanging them in a dry and dark closet free from dust. The grasses will, of course, fade somewhat, but will nevertheless be still very handsome. The margins of streams and ponds furnish many pretty, graceful varieties which, when properly preserved, will be the source of much pleasure.

Ferns and Autumn leaves require more attention; both should be rapidly dried, or rather pressed, between hot papers. Old newspapers are excellent for this purpose. Autumn leaves, to be preserved as perfect as possible, should be lightly varnished with map varnish, using a flat brush, or, what is simpler and generally more satisfactory, waxed. This consists of spreading the leaves out carefully, and then going rapidly over them with a hot flat-iron, previously passed over a piece of pure beeswax. In this way a fine, thin coating of wax is deposited upon the leaves, giving them a beautiful glossy appearance, and making their delicate tints permanent.

The bright crimson leaves of the Sumach prepared in this way make a lovely ornament.

Ferns are best when gathered with the autumn leaves in the fall, as the sap having then ceased to flow, they are more readily pressed, and preserve their color better.

Cat-tails, so common on margins of ponds, are very popular; these should be gathered early in the season, before maturity, as they are then not so apt to "fuzz out," and become more a nuisance than an ornament. The pods of the Milk-weed, taken a little before they burst naturally, and opened carefully, so that a part of the contents only protrudes, produce a very striking decorative effect.

Thistle-tops, also, are very showy, and can be procured from any florist in endless tints and shades of color.

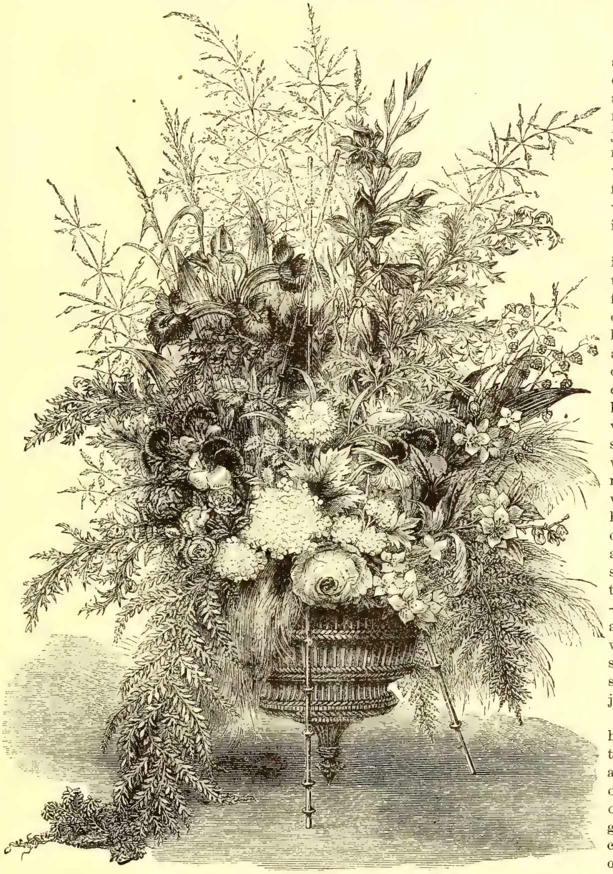
The selection and proper care of the material is of course of first importance, but success depends as much upon the tasteful and natural arrangement of the same as upon anything else. An exceedingly handsome basket, producing a pleasing and decorative effect,—the accompanying illustration of which we reproduce from *Gardening Illustrated*,—consists of a tripod of polished metal, having, a little more than half way below the union of the three rods and the base, a flat, circular ring firmly fastened to the legs of the tripod. Into this ring an ornamental wicker-basket was snugly fitted, which, for the use of fresh flowers, was lined with tin.

The basket was filled with moss, and "made up" of dried Grasses, Ferns, Autumn leaves, Golden rods, Asters, Gentians, and other wild fall flowers. As the fresh flowers faded they were replaced every few days by new ones, and thus the basket or stand was a source of rare beauty and much pleasure. When the supply of wild flowers failed in the latter part of the season, their place was filled by delicate Thistle-tops, snowy Milk-weed, and a few sprays of colored grasses. In the spring and summer the wildwood flowers may again be utilized, and the basket replenished; but the greatest pleasure to be derived from such a stand is in the winter, when the supply of natural flowers has ceased.

The tripod need not necessarily be composed of metal; neatly turned wood or natural sticks may be used, and any shapely basket will answer the purpose. The metallic lining may also be dispensed with when fresh flowers are not used; but it is better to have some lining material within the basket, for unless it is very tightly woven the moss is apt to come through. Stiff packing-paper or oiled canvas answers the purpose sufficiently.

The arrangement in all cases should be light and simple, taking care to avoid crowding the specimens, and allowing to all sufficient room for the drooping of the sprays, which will occur when the atmosphere becomes very moist.

Ike Ivy.



ORNAMENTAL FLOWER BASKET

A FLORAL HEARTH.

How much pleasure and enjoyment may be derived from observing and utilizing the many natural and beautiful objects which may be found near every country home, was vividly brought before our mind at a recent visit to a friend living in the country.

The fire-place, which is usually the least attractive and least sought for spot in the parlor during summer, was here, in August, as bright and cheerful as it ever could have been on a cold winter day, when huge hickory logs upon venerable andirons were spreading their grateful warmth through the cozy room, while fierce winds were howling around the house, and heavy snowdrifts blocking up roads and gate-ways. Here the shrine of winter's domestic deity—the fire-place—was not covered up, as is usually the case, with stiff and tasteless screens, but continued to spread cheerfulness and joy from its hearth-stone.

Clumps of tall Ferns had been dug up with their roots and placed around the back and sides of the open place, smaller ones filled the middle ground, and dwarf species, together with many other trailing and creeping forest plants, tastefully arranged, encircled the whole. Earth was shaken between the roots, and all the bare spots covered with green moss. A piece of bark, a rough stone, and a few wild flowers, were here and there appropriately introduced, giving the whole so natural an appearance that one might suppose the plants to be in their natural homes. The choicest pictures could not have imparted an air of more refinement to the room, and yet the cost of its embellishment was but a ramble through the woods.

Obituary.

HENRY B. ELLWANGER.

Deep regret has been felt throughout the country at the death of Henry B. Ellwanger, son of George Ellwanger, the senior member of the celebrated nursery firm of Ellwanger & Barry, Rochester, N. Y. Only thirty-two years old at the time of his decease, on the 7th of August, he had already risen to a prominent position among horticulturists everywhere, and was considered the highest authority in several specialties to which he had devoted himself. His book on " The Rose," published recently, is generally acknowledged as the best work of the kind ever published in America. To the profession in general his loss is irreparable, as the number of young men who imbued with a natural inborn enthusiasm for their calling combine thorough practical knowledge with special scientific training, is deplorably small.

Personally, he was one of the most modest and unassuming men we ever knew, although in several branches of science and art his attainments were far above those of amateurs. His natural refinement and large font of varied knowledge made him a most agreeable companion, while his amiable disposition made him befriended and beloved by all who had the good fortune to know him.

His loss is deeply felt by a large number of friends, while in his home, in the circle of his family from which he had to part so soon, he leaves a vacant place that can never be filled again. To his devoted wife and fatherless children, as well as to his bereaved parents, we extend our sincere and heartfelt sympathy.

Miscellaneous.

OSTRICH FARMING.

This new industry is now attracting considerable attention, and as the experiments made so far at the ostrich farm near Anaheim, in southern California, have proved highly satisfactory and promising, the following description by Gen. W. G. Le Duc, in the *N. Y. Tribune*, may be of interest to many of our readers :

THE INCUBATOR.

On the work done in the incubator and egg-room depends the success of the ostrich farm. A broad shelf on one side contains about fifty ostrich eggs, and any number of eggs of the brown Leghorn chicken. The incubator has been used for hatching these eggs prior to trusting the more valuable ostrich eggs to its maternal care. These ostrich eggs are a wonder to all who see them for the first time. They are regularly elliptical in form, weighing about three and one-half pounds, measuring in circumference eighteen by sixteen inches, and with holding capacity equal to a full quart measure. The color is a creamy white, and the shell is equally pitted all over and porous in appearance. Sixteen eggs have been put in the incubator up to the time of this visit, June 29th, and the remaining eggs, and what more may come, will wait for the Halstead ostrich incubator, which has made a favorable reputation in Cape Colony in the specialty of hatching ostrich eggs, and which is daily expected.

These sixteen eggs were placed in the incubator on May 14th, 15th, and 16th, and their period of incubation has nearly passed, for the chickens are moving in their shells, ready for advent into California life. One came as *avant courrier* yesterday, and to-day is a beauty of its kind. He is covered with speckled brown downy feathers, except on the head and neck and legs; he is as wild, shy, and active as the young antelope fawn, and, only a day old, is as large as a full-grown Leghorn hen. Uneasy and restless, in constant motion, and with inquiring eyes, he no doubt waits impatiently the companions who are to join him in his feather-producing career.

Preparatory to any nourishing food, he had placed before him, when about twenty-four hours old, a tray of small gravel-stones and crushed sea-shells; subsequent to this tonic he had a handful of chopped Alfalfa. This lays the foundation for a meal of cracked corn and water, and when this has been eaten, the bird is considered on the straight road to distinction as the first ostrich hatched in America. The bird will no doubt conduct himself, or herself, as the case may be (for the sex is not distinguishable for some months), in accordance with the rules and regulations prescribed and enforced here for the successful promotion of the honor and profit properly due the enterprising gentlemen who have initiated this new industry.

PADDOCKS AND FARM.

Leaving the front door, looking east, I turned to the south, and before me is an inclosure of four acres in L form, made by a post and board fence only four and a half feet high; but this fence is made of three good sound inch-thick, twelve inches wide, redwood boards, well nailed on. A kick from an irritated ostrich would break an ordinary fence board in splinters. These parallelograms making the L are divided into twelve paddocks, in which the stock of twenty-one ostriches — eleven hens and ten cocks — are placed. Each paddock contains a pair of birds, one having two hens and one cock. The paddocks are bare and sandy, but surrounding the breeding-grounds is an excellent growth of Alfalfa, Turnips, Cabbages, Onions, Maize, and Beets, all of which have been planted and grown since March 25th, and are on time for the voracious chickens, which are expected to rally round their exemplary parents in an all-summer campaign against the fifty-four acres of green food provided for them.

In close proximity to the paddocks is an artesian well, 300 feet deep, which discharges, four feet above surface, 12,000 gallons of water each hour — sufficient to irrigate, in this locality, from two to three hundred acres of land, planted to ordinary crops, and with the average rain-fall. The entire farm is a mile square, or 640 acres, and is a level plain.

A SUCCESSFUL ENTERPRISE.

It may be as well to remind you that these are the ostriches the arrival of which in New-York last November attracted so much attention, and which Dr. Protheroe, of Buenos Ayres, and Dr. C. J. Sketchley, both formerly of the Transvaal, Africa, brought to this country with the hope of forming a stock company to engage in the business of breeding fowls and raising feathers. A company was formed at once in San Francisco, with a paid-up capital of $30,000, Drs. Protheroe and Sketchley retaining an interest, and Dr. Sketchley giving the benefit of his experience as superintendent of the farm for the present.

This enterprise may be fairly pronounced a success, for the company has more orders for birds than it can promise to fill this season, and at its own prices, which are $100 to $120 for a healthy chick four months old. These chickens will yield their first feathers when eight months old, which picking should bring, at present market prices, from seven dollars to ten dollars. The next picking, eight months after the first, should bring from forty dollars to fifty dollars, and in two years the bird, if well cared for, is expected to be in full plumage, and to yield annually $200 worth of feathers. Ostriches breed when four years old, and from a pair is expected an average of fifty healthy chickens every year for twenty years.

HOW SMALL A HOUSE CAN BE.

To country boys, who have not room enough in the old farm-house, and who find the hundred-acre home farm too small for their ambitions, the size of some city houses may be interesting.

In all probability, the smallest brick house in New-York, says *The Sun*, is that at 249½ William street. It is four stories high, and five and a half feet wide. It looks like a chimney with windows in it. A barrel barricades the basement area. On the first floor a cobbler has his shop. He has a three-foot show window and a two-foot door-way, and as he sits on his bench no one can pass him unless he draws his elbows in. There is a staircase at the back of this singular house, but the upper floors are reached by door-ways in the wall leading from an adjoining lodging-house. The artist might hunt through London or Paris without finding anything more picturesque in its way than the immediate neighborhood of this queer building. There are behind it, on Chambers street, one-story sheds, two-story shanties, tall city tenements, and a house with a curious hanging addition on the end of it high in air, and everywhere every foot of room is utilized.

THE LARGEST LAND-OWNER ON THE CONTINENT.

Colonel Dan Murphy, of Halleck's Station, Elko County, came to California in 1844, and may be said to have made the country pay him well for his time. He is now, says the *Reno Gazette*, probably the largest private land-owner on this continent. He has 4,000,000 acres of land in one body in Mexico, 60,000 in Nevada, and 23,000 in California. His Mexico grant he bought, four years ago, for $200,000, or five cents an acre. It is sixty miles long, and covers a beautiful country of hill and valley, pine timber and meadow land. It comes within twelve miles of the city of Durango, which is to be a station on the Mexican Central. Mr. Murphy raises wheat on his California land, and cattle on that in Nevada. He raised 55,000 sacks last year, and ships 6,000 head of cattle right along.

AN HISTORICAL FOREST DESTROYED.

The fall of the famous pine forest along the Adriatic at Ravenna, Italy, celebrated by Dante and Byron, and which has furnished the ship-yards of Rome and Venice, is lamented by historians and scientists. The authorities of Ravenna have ordered it to be felled, as it appears that a cutting for a railway has so drained the soil that the trees have died.

AMERICAN NEWSPAPERS.

According to the *American Newspaper Catalogue* of Edwin Alden & Bro., Cincinnati, Ohio, just published, the total number of newspapers and magazines published in the United States and Canadas is 13,186, (showing an increase over last year of 1028). Total in the United States, 12,179; Canadas, 1007. Published as follows: Dailies, 1227; Tri-Weeklies, 71; Semi-Weeklies, 151; Weeklies, 9955; Bi-Weeklies, 23; Semi-Monthlies, 237; Monthlies, 1324; Bi-Monthlies, 12.

FASHION NOTES.

Rabbits' paws as hat trimmings are the present rage in Paris, and innumerable rabbits are required to supply the demand. This will be welcome news to many of our Western farmers, who have long been waging an unsuccessful warfare against the rabbit nuisance. The fashion cannot reach our shores too soon, and when it does, it is to be hoped that it will break out so violently as to put a high premium on dead rabbits. Cannot some one get up a fashion by which the English sparrows will come so much in demand as to be effectually disposed of?

AUSTRALIAN DROUGHTS.

The correspondent of a Sydney paper, writing of the ravages of the drought of last autumn, says:

"One paddock, in which 23,000 sheep were placed after last shearing, produces now only 1600 sheep, and the remainder must be looked for in the heaps of bleached bones scattered around, and the skeletons to be observed at every step. Another station, which had in September, 1881, 90,000 sheep, now can only muster 5000; and these two instances, which are given by way of example, are only illustrative of the losses on nearly every station within one hundred miles of Dubbo."

A SINGULAR TOMBSTONE.

Among his latest discoveries, Dr. Prime, the venerable editor of the *New-York Observer*, has found an odd monument in northern New-York, which had been erected to the memory of a most excellent woman.

A good man had lived happily with an excellent wife until they were well on in years, when she died. He bethought him of some fitting memorial to place over her grave, and the happy thought struck him that the square stove, by which they had been comfortable through many long winters, would be just what she would like to have if she had a voice in the matter. He had the stove taken to the church-yard and placed over the remains of his companion, who sleeps quietly underneath it.

BOOKS AND PAMPHLETS RECEIVED.

Berks County Agricultural and Horticultural Society. Premium List of the Annual Exhibition to be held at Reading, Pa., October 2, 3, 4, and 5.

St. Louis Agricultural and Mechanical Association. Premium List of the Twenty-third Fair, which opens on October 1st and closes October 6th. $50,000 in premiums.

Hope, Hempstead County, Arkansas. Its resources and advantages, with a description of soil, climate, timber, health, etc., for the information of those seeking homes in the South-west.

The Thermostatic Incubator, its construction and management, together with descriptions of Brooders, Nurseries, and the mode of raising chickens by hand. Published by the author, E. S. Renwick, 19 Park Place, New-York.

Montreal Horticultural Society and Fruit-growers Association of the Province of Quebec. List of Premiums offered at the Exhibition to be held at Montreal in September. The prizes for Grapes are open for competition to the United States.

The American Apiculturist is the title of a new monthly journal devoted to scientific and practical Bee-keeping, published by *S. M. Locke, Salem, Mass.* The number before us contains several articles by some of the first authorities on bee-culture, and augurs well for its success.

Kansas State Board of Agriculture, Monthly Crop Report, containing area, estimated yield, and condition of crops; condition of fruit; the meteorological summary for the month, and a list of district and county agricultural societies, with names of presidents and secretaries, and the times and places of holding their annual fairs.

The Texas State Farmer, published at *Fort Worth, Texas,* is a new monthly journal which, although it claims to be devoted *exclusively* to the farmers of Texas, is so good that we hope its circulation will not long remain confined within the State limits. As a strictly southern, practical, first-class agricultural paper, it stands at the head of the list.

Labor and Capital, by *Edward Kellogg.* Published by John W. Lovell Co., 14 and 16 Vesey street, New York, 12mo. Paper, 20 cents.—Although the first edition of this work was published in 1848, it has such an important bearing upon the financial and political state of the country of to-day, that the publishers are justified in issuing it in a cheap form, thus placing it within the reach of all who are interested in the industrial problem.

Pear Culture for Profit, by *P. T. Quinn,* new revised edition, published by the *Orange Judd Company, New-York.* The demand for a new edition of this book—which, although cordially welcomed by pomologists everywhere at its first appearance, fell like a thunderbolt among many of the then existing old-fogy notions about Pear-growing—clearly indicates that the author's work has not been in vain, and that his views and directions have gradually become adopted by Pear-growers.

Many of the errors and wild expectations of the profits to be realized from Pear-culture, existing formerly, have been disproved and brought down to a solid, rational business basis, to which end nothing has been more conducive than this work and its author's teachings. The author's views about the unprofitableness of "Dwarfs," against which he was the first to wage a determined warfare, have become still more confirmed; and while in the first edition he allowed some days of grace to Duchesse d'Angouleme, in this he has no excuse for Dwarfs of any kind, and says: "I am now convinced that even the Duchesse d'Angouleme will do much better as a Standard than as a Dwarf." The advice given to those who intend to plant for market, to select only a small number of varieties, and these only of kinds for which there is a good demand, deserves to be printed in golden letters on the front page of every nursery catalogue. It would save hundreds of thousands of dollars and untold regrets; for, as the author truly says: "The desire to educate public taste in the choice of varieties is laudable, but it is usually a thankless and unprofitable task."

All the preparations and operations necessary in Pear-culture for profit or pleasure are plainly and concisely described, while the tone of the entire work is eminently practical and divested of all theorizing. As a safe and reliable guide to the beginner, as well as those of more experience, the book cannot be too highly recommended.

CATALOGUES RECEIVED.

Fay's Prolific Currant.—*George S. Josselyn, Fredonia, N. Y.*—A pamphlet giving descriptions and a large number of reports on the Fruiting, Vigor, Health, and Growth of this valuable new Currant.

Green's Nursery Co., *Rochester, N. Y.*—Price-list of layer and potted Strawberry plants. Head-quarters for "James Vick." Many testimonials from fruit-growers and others, testifying its good qualities, are given.

Ellwanger & Barry, *Mount Hope Nurseries, Rochester, N. Y.*—Descriptive priced Catalogue of Strawberries, Blackberries, Gooseberries, Currants, etc. A full list of all the best, new, and old varieties, together with many practical cultural directions.

B. Hammond & Co., *Mount Kisco, N. Y.*—Defining Catalogue and Price-list of a large list of paints and painters' material. These paints are favorably known at home and abroad. The pamphlet contains also many practical hints and directions of value to any one intending to paint.

Hale Brothers, *South Glastonbury, Conn.*—Price List of New and Choice Varieties of Small-Fruit, Plants, etc., for Summer and Fall. Specialties: Souhegan Raspberry, Manchester and Mrs. Garfield Strawberries. A life-sized illustration of the latter new and highly promising variety, now introduced by this firm, is given on the front page.

E. P. Roe, *Cornwall-on-the-Hudson, N. Y.*—Catalogue of Small-Fruit Plants and Grape-vines for Summer and Fall. This pamphlet, like all of Mr. Roe's publications of this kind, has a unique and exceedingly attractive appearance. It is full of sound advice and practical directions of value to every fruit-grower. In a "Chat with his Patrons" Mr. Roe refers to his recent financial misfortune, the cause of which has been misunderstood by some persons. In this connection, we wish to say that in all the various business transactions we have had with Mr. Roe during a series of many years, we have always found him reliable and honorable in his dealings, and we are glad to hear that he is enabled to carry on his extensive plant business, in which we wish him all deserved success.

ANSWERS TO CORRESPONDENTS.

The Three Best Hardy Grapes.—*Subscriber, R. I.*—If hardiness is of first consideration we would select Concord, black; Brighton, red; Martha, white. For quality, Moore's Early, black; Delaware, red; Duchess, white.

Keeping Artichokes.—*E. J. W., Minn.*—Artichokes may be dug at any time before the ground freezes, and kept in a rather cool cellar, exactly like Potatoes. Or, if not wanted during winter, they may be left in the ground till spring. Freezing will not injure them, provided they are covered with soil.

Late Strawberries.—*E. M. G., Branford, Conn.*—*Kentucky* is one of the most reliable late varieties, and succeeds over a large area of country. *Cumberland Triumph,* although it commences to ripen earlier, holds out nearly as long. *Sharpless* is the largest of the late kinds. *James Vick* holds out remarkably late, the berries remaining on the stalks a long time without softening. *Marvin* is probably the latest, and, with good culture in hills, it is really a splendid berry.

Ginseng.—*H. H., Long Island.*—Ginseng, *Aralia quinquefolia,* or *Panax quinquefolium,* is not, as far as we are aware, cultivated anywhere in the United States, the supply being obtained entirely from plants growing wild in our mountainous regions. Several attempts to cultivate it have been made, but failed; yet this should not deter any one from experimenting with it in a small way. It is largely cultivated in Japan, and as the demand is steadily increasing, and the supply diminishing, there is no danger of overstocking the market. The plant grows naturally in rich, damp, partly shaded places, and would thrive probably under a treatment similar to that given to Cranberries.

Wistarias.—*J. B., Decorah, Iowa.*—The Wistaria produces its flowers from old spurs like Apple and Pear trees, and as with the latter, earlier formation of flower buds may be induced by judicious pruning. In midsummer, all the side shoots should be cut back to about one foot from the main stem. These will soon start a number of other side shoots, which, when a few inches long, should be pinched in again, similar to the mode of summer pruning Grape-vines. This has a tendency to produce flowering buds instead of leaf buds. If the young shoots make a strong growth, they should be cut back again the following spring. It is probably too late in the season to be of any benefit, yet there can be no risk to try it on a few branches.

A Successful Young Man.— *The Hon. Daniel F. Beatty*, of Washington, N. J., the great organ builder and advertiser, who has already accomplished more than falls to the lot of very few men in a life-time, is only thirty-five years old.

The Waterbury Watch, advertised by *Messrs. Cummings & Co.*, is offered so cheaply that no one need miss a train nor fail to keep an appointment. A reliable watch for $3.50, and chain thrown in, is an offer that should not be overlooked.

G. R. Garretson, *Flushing, N. Y.*—We acknowledge the receipt of a number of seedling Strawberry plants of strong, vigorous habit. The variety is a cross between Charles Downing and Jucunda, has never blighted, and was awarded the first premium at the Minneola exhibition.

The Sedgwick Steel Wire Fence, manufactured by *Sedgwick Brothers, Richmond, Ind.*, is rapidly finding its way to every township in the country. Those who have occasion to fence anything in or out, of whatever nature it may be, will find it to their advantage to send for circulars.

The Great American Tea Company, *New-York*, offer in our advertising columns some tempting premiums in the shape of beautiful China dinner and tea sets to those who will get up clubs. We know that this a *bona fide* offer, and that the company will send what it promises in addition to your money's worth of tea or coffee.

The New England Conservatory of Music, *E. Tourjée, director, Franklin Square, Boston, Mass.*, affords unusual facilities to any one who desires a thorough education in any or all branches of music. The course of instruction has now been enlarged so that those who desire may, at the same time, receive tuition in all English branches usually taught in common and high schools.

Amateur Photography.—*E. & H. T. Anthony & Co.*, 591 *Broadway, New-York*, make a specialty of supplying all the equipments required for amateur as well as professional photography. Their illustrated catalogue gives a clear understanding of all the materials and apparatus needed; and with their book "How to make Photographs," any intelligent person may easily learn this interesting art.

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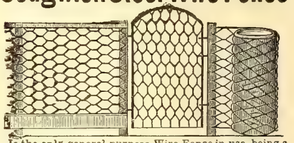

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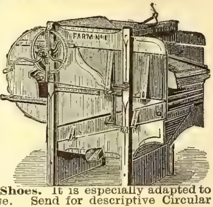

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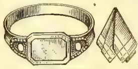

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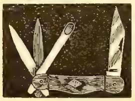

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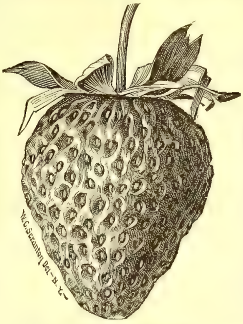

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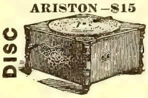

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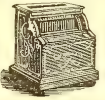

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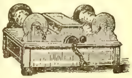

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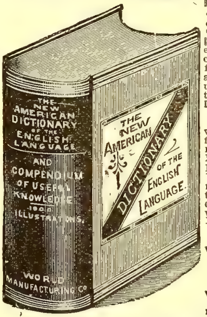
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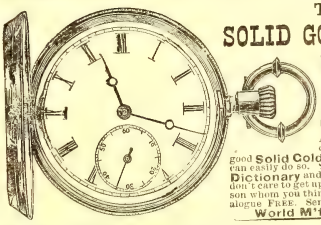

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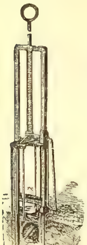

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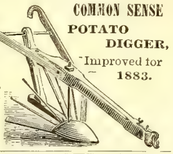

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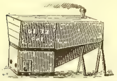

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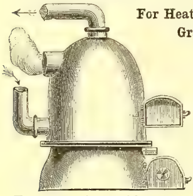

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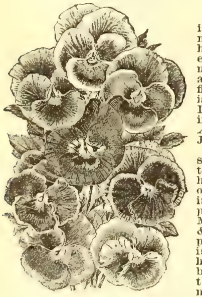

The seed we offer is grown in Germany by one who has made this flower a specialty for many years. In size and beauty of the flowers, this strain is unapproachable. Dr. Thurber says, in the *American Agriculturist* for June:

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This new and promising variety is the result of an experiment made by F. H. Horsford, of Charlotte, Vermont, 1878, and is a cross between these two well-known wheats, the Diehl and Clawson. The heads are beardless, regular, and very handsome, five and a half inches long with eighteen to twenty breasts, of four grains each. Kernels about the size of the Clawson, hard, plump, and of a light amber color. Straw, from three to five feet high, bright yellow, strong and elastic; tillers freely, forty heads having been counted from one kernel. It matures with Clawson, and has produced the past season (1883) in Northern Vermont at the rate of forty-five bushels per acre from one bushel of seed, and would doubtless have been even more productive in a better wheat country. Price by mail, trial packets (containing 2 ozs.), 25 cents each; per pound $1.00.

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A hybrid of the Diehl and Red Mediterranean, originated in Western New-York about six years ago. Heads broad, medium length, and full of large, plump, heavy, red grains; blue straw, stiff and of medium height. It has produced over forty bushels per acre with ordinary culture, and the milling qualities are claimed to be equal to those of Red Mediterranean. Tillers remarkably, so that it stands one-third thicker than Clawson, Fultz, or Mediterranean; hence its producing qualities are greater. It has the compact head of the Diehl with the beard and blue straw of the Mediterranean; is very hardy and matures with Clawson. We believe it is an important addition to our list of Winter Wheats. By mail 2 lbs. for $1.00; by express at purchaser's expense, $2.50 per peck; $8.00 per bushel.

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Red Mediterranean.—This is an imported variety, fully acclimated, and is a standard Wheat. Heads bearded, well filled, and ripens early. Three pounds, by mail, $1.00; bushel, $2.25.

RYE.

THE NEW RYE, THOUSAND-FOLD.

(See illustration.)

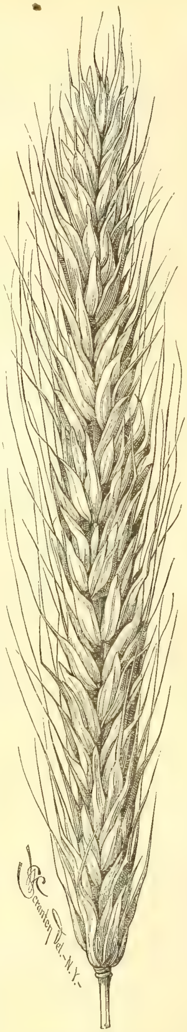
The rapidly increasing importance of rye in many sections of our country where wheat culture is not found profitable, as well as the enormous demand for straw for manufacturing purposes, has induced us to import many of the leading European varieties of this valuable cereal. After careful tests and extensive comparative trials with all the best varieties in cultivation, we confidently recommend this new and remarkable *Winter Rye* as superior to any of the older kinds.

It grows from six to seven feet in height, with extraordinarily stiff and heavy straw, holding up well its weighty heads without lodging; it is long-jointed, bright, and clean, making it adapted to various purposes for which imported straw is generally used. The heads are from six to eight inches in length, profusely filled with large, heavy, and plump grains; so that, combined with its remarkable tillering tendency, it is not rare to find stools which, in verification of their name, produce a thousand grains from one.

In hardiness and yield it is not excelled by any other variety, having wintered splendidly in most severe seasons, producing from thirty to fifty bushels per acre, according to the character of the soil and seasons. On account of its luxuriant growth and profuse tillering, a quarter to a third less seed should be sown per acre than is used of less vigorous growing kinds. Price, one pound, 50 cents; three pounds, $1.00,—by mail, postpaid; per peck, $1.75; half bushel, $2.50; bushel, $5.00—bags included, express charges to be paid by purchaser.

Winter Rye.—White, of a superior quality. Three pounds, by mail, $1.00. Per bushel, $1.50.

Spring Rye.—Three pounds, by mail, $1.00. Per bushel, $1.75.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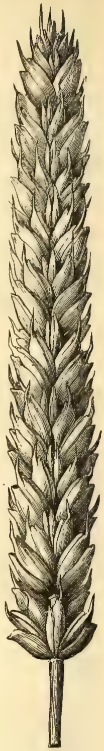

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Particular attention is invited to the following list, the seeds being of a quality that cannot be surpassed. They have been selected from the stocks of several of the most successful cultivators and exhibitors in this country and Europe, and we can confidently recommend them to growers requiring specially good strains for either commercial or competing purposes.

No.		*Per Pkt.*	*No.*		*Per Pkt.*
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880.	**Daisy, double white**	.25	2272.	**Wallflower,** extra fine double	.25

For detailed description of the above and a more extended list, see our Seed Catalogue.

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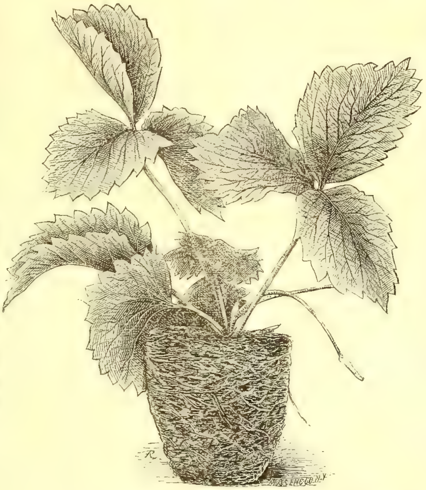

ATLANTIC.—A splendid variety, possessing many desirable and remarkable qualities. Fruit large and uniform in size, of a bright crimson color, and excellent flavor. Layer plants, $2.00 per dozen, $10.00 per hundred; potted plants, $2.50 per doz., $12.00 per hundred.

THE PRINCE OF BERRIES.—Of superior flavor and quality, brilliant and beautiful in color, very productive, and of such determined hardy qualities as will undoubtedly make it the most successful berry ever introduced to the public. Layer plants, $2.00 per dozen, $12.00 per hundred; potted plants, $2 50 per dozen, $14.00 per hundred.

DANIEL BOONE.—Of excellent color and flavor, and likely to rank high as a market berry. Layer plants, $1.00 per dozen, $5.00 per hundred; potted plants, $1.50 per dozen, $6 00 per hundred.

JAMES VICK.—Layer plants, 75 cts. per dozen, $3.00 per hundred; potted plants, $1.00 per dozen, $5.00 per hundred.

Big Bob,
Jersey Queen.

Layer plants, 50 cts. per dozen, $2.00 per hundred; potted plants, 75 cts. per dozen, $3.00 per hundred.

Manchester,
Seneca Queen,
Warren,
Longfellow.

Layer plants, 50 cts. per dozen, $1.00 per hundred; potted plants, 75 cts. per dozen, $2.50 per hundred.

For further information, we refer to our Strawberry Plant list, which will be mailed to all applicants.

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Layer plants, 50 cts. per dozen, 75 cts. for fifty, $1.00 per hundred; potted plants, 50 cts. per dozen, $2.50 per hundred.

EARLY.	MEDIUM.	LATE.
Bidwell,	**Chas. Downing,**	**Captain Jack,**
Cinderella,	**Cumberland Triumph,**	**Glendale,**
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At the dozen rate, layer plants will be sent by mail, postage prepaid. At the hundred rate, if to be sent by mail, 50 cents per hundred for postage must be sent in addition to the price.
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If by mail, in quantities of 4 ounces and upward, postage must be added at the rate of 16 cents per pound; and for postage on Peas, at the rate of 25 cents per quart.

	Per pkt.	Per oz.	Per ¼ lb.	Per lb.
Cabbage, Early Jersey Wakefield	10 cts.	$0 75	$2 00	$7 50
— Henderson's Early Summer	10	50	1 75	6 50
— Early York	5	20	60	2 00
— " Winnigstadt	10	25	75	2 50
— " Flat Dutch	10	50	1 75	6 00
— " Fottler's Improved Brunswick	10	50	1 75	6 00
— Premium Flat Dutch	10	40	1 50	5 00
— American Drumhead	10	40	1 50	5 00
Cauliflower, Earliest Paris	15	1 00	3 50	12 00
— Sea Foam (Extra Early, New and Fine)	50	10 00		
— Half-Early Paris	15	80	3 00	10 00
— Early Dwarf Erfurt	25	2 00	7 00	24 00
— Extra Dwarf Early Erfurt (Extra Select)	50	8 00		
— Early Snowball	25	5 00		
— Algiers	15	1 00	3 50	12 00
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Endive, Green Curled	5	20	60	2 00
Kale, Improved Siberian	5	10	25	80
— Dwarf Curled, German Greens, or "Sprouts"	5	10	25	90
— Green Curled Scotch	5	10	30	1 00
Lettuce, Curled Simpson	10	20	60	2 00
— Simpson's Black Seeded	10	25	75	2 75
— Butter	10	25	75	2 50
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— Large Yellow Globe	5	10	25	75
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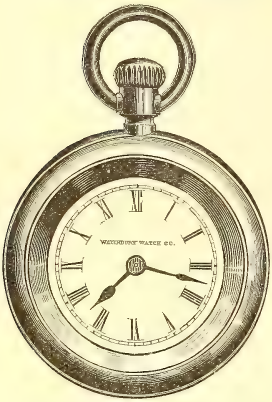
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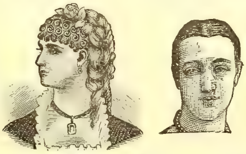

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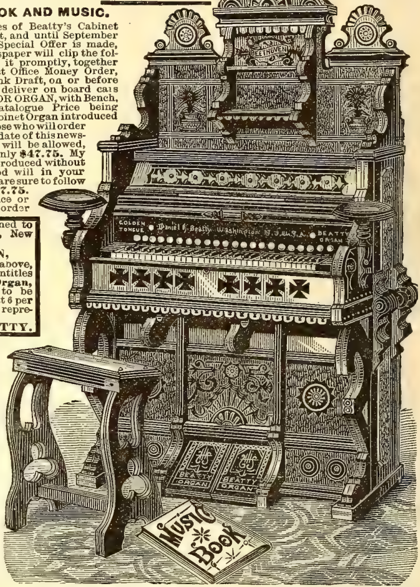

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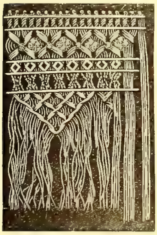

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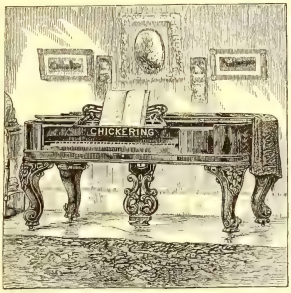

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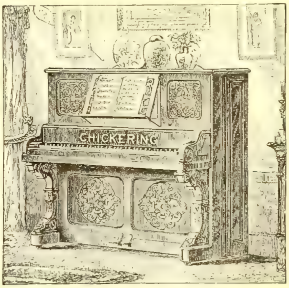

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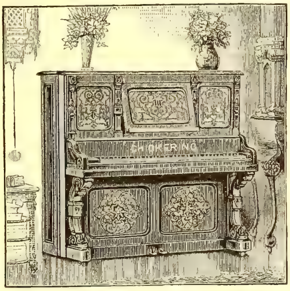

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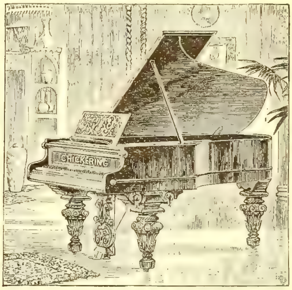

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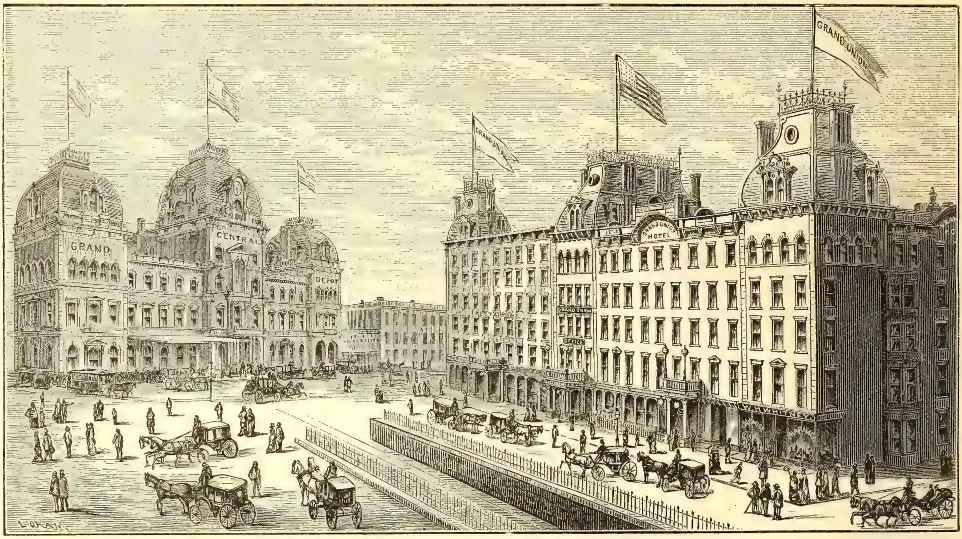

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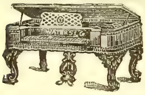

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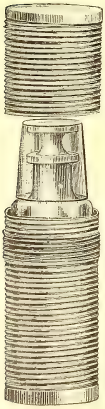

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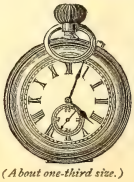

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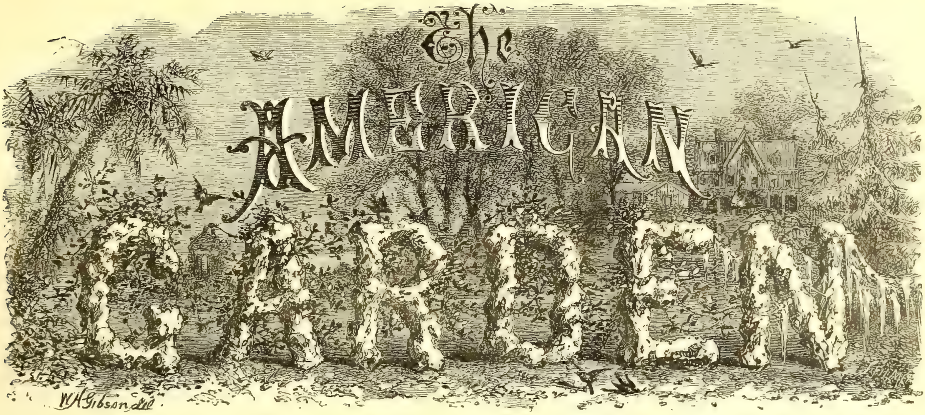

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A PLATE OF LILIES.

It gives us great pleasure to present to our readers the inclosed beautiful painting. The execution of this plate has required considerable time and study, as each flower was painted from nature at the most favorable period of the blossoming season of the respective species.

Two additional flower pictures, executed in the same artistic style, are already approaching completion, and will be issued with future numbers, the next one January, 1884. It is our intention to make these colored plates a leading and permanent feature of THE AMERICAN GARDEN; but, as the cost of work of this excellence is considerable, the frequency of their appearance will depend largely upon the support received from our readers. Nothing could give us more pleasure than to be able to add a colored plate to every number. It is not an impossibility that we may yet realize this pleasing anticipation; but to effect it we need the active coöperation of every one of our readers. Treble our subscription list, and it is done!

This is a good specimen number to show to your friends, and with your influence and a word of comment, it seems that at least two of your friends could be induced to become subscribers.

Any one subscribing during the present month will receive this number with Lily plate, the November and December numbers of this, the twelve numbers of next year, and a valuable premium in addition. Surely any one at all interested in horticulture cannot consider this dear at *One Dollar*.

We shall be pleased to mail a specimen number (without plate) free to any address.

Colored plates suitable for framing, safely packed in paper boxes, 10 cents by mail.

A SPECIAL PREMIUM.

In order to facilitate the arrangement of our subscription lists at as early a date as possible, we make the following very liberal offer:

To any one sending us,

Before November first,

a club of ten subscribers to THE AMERICAN GARDEN for 1884, at 75 cents each, we will send as compensation for his trouble a bulb of each variety of Lilies represented on our colored plate.

The same collection will be forwarded to any one sending us,

Before November first,

a club of five subscribers to THE AMERICAN GARDEN for 1884, at $1.00 each.

Members of these clubs will receive the paper from now till December 1884, and are entitled to our general premiums the same as if they had sent their subscriptions singly at $1.00 each.

But remember these offers hold good only

Till November first.

PROFITABLE ADVERTISING.

We have advertised considerably in THE AMERICAN GARDEN, and it pays us, we must say, *well.—Patten Publishing Co., New-York.*

We have used all the publications we deemed advisable to advertise in, and so far THE AMERICAN GARDEN has paid better than any other one paper.—*Woods, Beach & Co., Rose Growers and Florists, New Brighton, Pa.*

Judging from the demand we are having for circulars, and the orders received, THE AMERICAN GARDEN is going to the ends of the earth and "the isles of the sea."—*Hammond & Co's Paint Works, Mt. Kisco, N. Y.*

THE AMERICAN GARDEN has paid us better than any one of the hundred papers that we have used this season.—*Hale Bros., Elm Fruit Farm, South Glastonbury, Conn.*

HOW SUBSCRIBERS LIKE THEIR PAPER.

I cannot do without THE AMERICAN GARDEN. It is a great help to me, and the information I derive from it is of great importance to me. The feature I value in particular is that its directions are so plain and easy that any one can understand them, and depend on them as reliable.—*R. M. H., Naugatuck, Conn.*

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The Vegetable Garden.

SEASONABLE HINTS.

Storing Potatoes.—At this season, nearly every day's mail brings the inquiry, how best to keep Potatoes? Here, as in most situations, circumstances alter cases. The conditions for preserving Potatoes in good condition are a uniform low temperature, from thirty-four to forty degrees, as nearly as can be maintained without falling below the freezing point; a moderately dry atmosphere, and exclusion from light. Wherever these can be best secured on the premises is the proper place for keeping Potatoes. A cellar, other conditions being equal, is always to be preferred, on account of its accessibility at all seasons. The main objection to house cellars for storage of vegetables is that they are generally too warm. Yet, if a cellar is dry, has facilities for good ventilation, and the Potatoes are placed in it in sound and dry condition, they keep better in a comparatively warm temperature than in a cooler cellar that is moist.

Pits for storing Potatoes and various roots are only to be recommended when a suitable cellar is not available, and those who have not had experience in pitting should not intrust their entire crop to outdoor storage, but experiment with a part only the first year. A dry location, secure against standing water, and sheltered from the severest winds, should always be selected. Here, a trench, five to six feet wide, and three to four feet deep, is dug, the bottom leveled, and the roots filled in to the level of the ground. Every two or three feet a layer—that is, a partition—of soil is placed crosswise up to the surface, thus dividing the pit into several smaller sections. Soil is then thrown on the top, so as to be about two feet high in the center, sloping toward the sides, and extending two feet beyond, and well packed with the back of a spade to carry off rain. As cold weather increases, more soil is added, sufficient to exclude any possible degree of cold. This is a favorite plan with market-gardeners who store a large bulk of roots. For smaller quantities, narrower pits, about three feet wide, may be used with equally good results. In northern climates it is best to place a thick layer of straw or cornstalks over the mound of earth and to cover this again with a coat of soil.

Onion Sets may be planted in the fall, with a favorable prospect of obtaining large Onions earlier in spring than could be had in any other way; and considering the risk in wintering sets, fall planting is perhaps the safest plan. In this case it is absolutely necessary that the ground should be in best condition and perfectly drained. Onion sets have a poor chance to survive in stagnant water and ice. After the ground becomes frozen hard, the beds should be covered lightly to prevent frequent thawings.

Cabbage Worms.—A reader of THE AMERICAN GARDEN has tried, and warrants effectual, the following preventive against this pest. When the Cabbage-heads begin to form, open the leaves carefully and sprinkle in the center a pinch of equal parts of Cayenne and black Pepper mixed, and carefully close the leaves again. Not one plant so treated was affected with worms.

ABOUT BEETS.

Of nine varieties of Beets planted at the New-York Experiment Station, April 19th, the Dark Red Egyptian was the earliest, being fit for use June 20th, and not surpassed in quality. With the exception of the tap-root, which is very slender and clearly defined, it grows above ground, and where the plants were not thinned, the bulb-shaped portion of the root was frequently crowded upward to the height of two inches, being connected with the soil only by the elongated tap-root. It has been pronounced "not very productive," but experience would indicate that on fertile soil, with the plants allowed to grow thickly in the row, it would hardly be surpassed in productiveness by any of the garden Beets. The root cooks very sweet and tender, is finely colored, and continues edible until autumn.

The Swiss Chard, or Silver Beet, belongs to *Beta Cicla*, a different botanical species from the other varieties, and is grown for the leaves, which are used as greens, or the stems and midribs are cooked and served like Asparagus. These were fit for use after June 20th throughout the summer, and were pronounced quite superior as greens.

Samples of several varieties of so-called Ornamental Beets were also grown. Their broad showy petioles and midribs, variously and often brilliantly colored, with beautifully crimpled green or purple leaves, gave them a unique appearance and attracted much attention from visitors. The more showy varieties might be grown with fine effect as a remote border in the flower garden, but the foliage is rather coarse for use in the foreground.

The immense mechanical force exerted by the growing roots of firm wood is made evident by the frequent displacement of flagging stones, and the injury often done to pavements by the roots of shade trees. In the experiments by President Clark upon the Squash, this fruit in growing was able to raise 4120 pounds, and carried for ten days 5000 pounds without injury. The power exercised by an annual root is also exceedingly great, as shown in the case of a Long Blood Beet planted at the Station, in an inch drain tile set upon end and buried in the soil. This drain tile was split lengthwise with the greatest ease as the root outgrew its accommodation.

WINTERING SWEET POTATOES.

Growers differ in their opinions whether it is more profitable to sell directly from the field or to store for winter and spring; yet it is generally accepted that if the crop is well forward, it is best to dig early and market directly. If not, the tubers should be allowed to grow until frost kills the vines, when they should be dug and stored at once.

Mr. A. P. Arnold, of southern New Jersey, who grows Sweet Potatoes on a large scale, and whose extensive experience entitles his opinions to special consideration, has formerly stored his crop in large bins, holding 200 to 400 bushels each; but not finding this plan advantageous, has adopted smaller receptacles.

Not that we cannot keep the Potatoes in bins, said Mr. Arnold before the *State Board of Agriculture*, but the pouring or dumping them out of baskets or trays marks, scabs, and bruises them so as to lessen their value. I like to see a Potato clean, smooth, and bright when shipped to market; such stock put up in nice, clean barrels will bring twenty-five to fifty cents more per barrel than that which is scabbed and bruised by too much handling. I am using trays that hold a bushel each; the Potatoes are carefully sorted into these, and then set away till wanted to be packed for market. Free from bruises or marks, and carefully packed, they present an inviting appearance to the buyer.

Some old growers may think this too much work, but I claim that it is less. Sweet Potatoes are a heavy, bulky crop, and the less they are handled and lifted about the better. These trays cost about ten cents each for material, are very compact, and can be piled on top of each other. I have the best success by keeping the temperature of the cellar about sixty-five degrees, and by giving plenty of air at digging time till the tubers have sweated off.

LETTUCE FOR THE SOUTH.

It is not in the nature of the Lettuce plant to produce as solid heads during our hot, dry summers as it does in spring, and if we must have Lettuce at that season, we have to content ourselves, with as much grace as we may, with the crisp, curly, open-head varieties which may be grown to perfection even in the Southern States. In regard to this, our correspondent, *W. M. Bowron*, of Tennessee, within two miles of Alabama and Georgia, writes:

"I sowed the seed of 'Perpetual' on a good piece of ground, and after the plants had made four leaves we had a long drought, and they wilted badly; but when rains came, recovered, and were for six weeks our only available Lettuce.

"In this hot climate, however, all green Lettuce speedily becomes bitter, in marked contrast to the 'Red Dutch.' I measured a head of the latter only a trifle larger than the average; it was fourteen inches high and twenty-four inches across, and was cool and buttery in flavor, and was grown without special attention or hand-watering during the drought above mentioned. I have grown this variety for several years, and am inclined to believe that it does not receive the praise it is entitled to as an early Lettuce in hot localities."

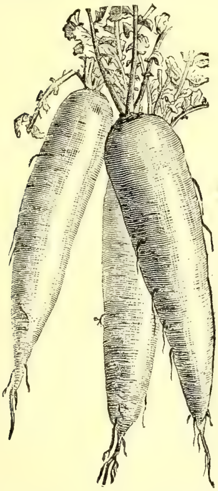
COAL-ASHES FOR HEAVY SOILS.

For the purpose of making stiff soil friable, sifted coal-ashes, where they can be readily had, are better than sand. They are more easily disseminated through the mass, and contain a small proportion of mineral salts likewise, though their merit is principally mechanical. I had a patch of clay over trap-rock that, after a rain, took on the consistence of putty. I could do nothing with it. Vegetable manure it scorned, and the spade cut in it as though it was skim-milk cheese. The place was made the receptacle of the winter's ashes. Two years after, it was dug up through a mistaken order in the fall. Next spring I manured it, and had it dug over. Then I planted it, of all things in the world, with Melons. They were a striking success. More than that, the friability of the soil remained permanent.

T. D. E.

WINTER RADISHES.

Early Radishes from hot-beds or the open ground are among the most highly valued spring vegetables, and may be found in every garden worth the name. To produce them at the earliest date possible is one of the great aims of every ambitious gardener. Yet it seems strange that while many persons are so fond of Radishes that they would have them on their table the year round if they could only procure them, but few are aware that this spicy relish may be had at any time without much trouble.



CALIFORNIA WHITE WINTER RADISH.

Winter Radishes are sown in August and September, and later even where the soil is dry and warm. The ground, as is the case with spring Radishes, must be light, warm, and well drained. The seed is sown in drills about fifteen inches apart, covered about half an inch, and as soon as the plants appear above ground they have to be hoed and kept cultivated through the season, thinning them out from time to time so that they stand two to three inches apart in the rows. Light frosts do not injure them, but the crop should be taken up before heavy freezing sets in. They are best stored in boxes or barrels in a cool cellar, covering each layer with sand or dry earth.

The Rose-colored China is the best known variety. It is of bright rose color, very smooth, elongated cylindrical, somewhat swollen toward the lower extremity, and rather obtuse on both ends. The flesh is pure white, firm, and pungent.

California Mammoth White Winter is, to our taste, superior to the above, as it is less pungent and keeps better. Its skin and flesh are pure white, shape long, tapering cylindrical.

Long Black Spanish. This is the hardiest of all the winter varieties, and keeps till spring. Its flesh is very firm and of sharp flavor. Skin black, somewhat rough; shape elongated conical, grows to a large size. There is also a *Round Black Spanish Winter Radish*, which differs from the long in form only. The pungency of these two varieties may be considerably moderated by slicing and salting the Radishes about half an hour before use.

HOEING.

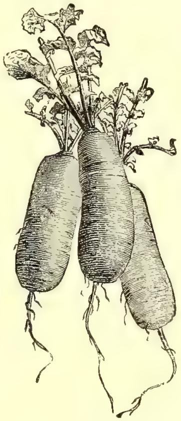
Hoeing is, I fear, likely to become a "lost art." The object of hoeing, as I understand it, is to loosen and aerate the soil, and to destroy weeds, and the office of the hoe is to do this work where the cultivator and kindred implements cannot reach; and yet how few laborers there are who have even a vague idea of using a hoe for this purpose.

From an experience of twenty years with "hired help," I verily believe there is not one in ten—and I am not sure there is one in twenty—that, if left to themselves, will or can hoe a hill of Corn or Beans properly. If such exist, it has not been my fortune to find them.

The great majority must have a broad hoe, and when set to work with it will proceed to hill up the Corn, so that any rain that may chance to fall will run away from the hills, which are made to resemble miniature volcanoes as pictured in the geography of my schoolboy days, the Corn representing very well the smoke issuing from the summit.

It is just so with Potatoes; they are banked up so that in a dry time the moisture is all drawn out of the soil below the roots; and as for weeds, the modern hoer never stoops to pull one out (of his own accord, I mean). Oh, no; he has too much backbone for that. He sometimes covers them up, or gives them the benefit of a little fresh earth, as he does the Corn; but what he considers finished is generally not half done. You may show and endeavor to teach, but the lesson seldom lasts longer than the giving of it. The workman soon lapses into the slipshod style. To look over a Potato field after it has been hoed, and see weeds overtopping the Potatoes, is a sad commentary on the efficiency of the labor we are compelled to employ.

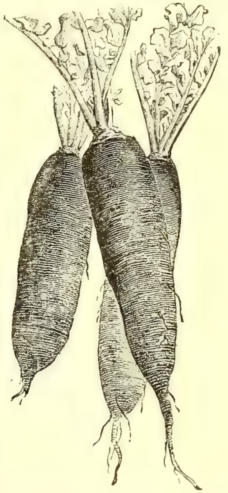
Our agricultural societies used to have plowing-matches, which not only tested the plows, but the skill of the plowman, and the influence was widely beneficial. But the time has come when good plowmen are scarce. Why not revive these contests before the race of skilled workmen becomes extinct? Would it not be wisdom also to institute hoeing-matches as a means of improvement in that art?



ROSE-COLORED CHINA WINTER RADISH.

Colonel Curtis stated recently that he had a hand to help plant Corn, which it would have been more profitable to pay for staying out of the field; and yet I have no doubt said hand claimed "going wages." That is the kind of help that costs $1.50 and $1.75 per day here, a price which should entitle the employer to better service than he receives.

The truth of the matter is that labor of all kinds, mechanical as well as agricultural, is year after year becoming more inefficient. Notwithstanding the improvements in tools and implements, work is not as well done as formerly. Then it took four to five years to make a carpenter or mason, but in this fast age six months' service with hammer and saw, at mixing mortar or carrying a hod, suffices to graduate and demand journeymen's wages, and if there is a strike for wages this is the class that make the most noise. The wages paid by the husbandman ought to secure better service than they do.



BLACK LONG SPANISH WINTER RADISH.

Technical and industrial schools have done much to provide skillful labor required in manufacturing and various other industries; but the few attempts to make the help needed by the husbandman more efficient have not produced the desired results. The widespread opinion that any one can make a farmer, and that all the bright boys must enter the professions, is erroneous in the extreme; while, to the contrary, there are few callings in which skill and intelligence are more essential to success than in agriculture and its twin sister, horticulture.

E. Williams.

TOMATOES ON POLES.

A convenient way of training Tomatoes is described by W. P. Woodworth in the *Rural New Yorker*, as follows:

"My plan of growing Tomatoes in the garden is to set poles about eight feet long firmly in the ground three feet apart each way. A plant is allotted to each pole, with an old fruit-can with both ends cut out set in the ground near each plant, in which to pour water when needed. Cut out all laterals, and tie up the main vine to the pole, as it grows. This permits the use of rich soil and insures much earlier, larger, sweeter and more abundant fruit, besides keeping it clean, and rendering it less liable to rot."

The Fruit Garden.

SEASONABLE HINTS.

Strawberries, potted, and layer plants, may still be set out during this month; but the longer this is deferred the more care has to be given to the preparation of the ground and the plants themselves.

Do *not* cover up your Strawberry beds at the first light frost; the end of next month is time enough.

Currants, if fairly treated, are among the most profitable fruits for the market, and the easiest grown in the home garden. But Currants have become tired of their long, patient suffering, and have rebelled against the shiftless neglect to which they have been subjected in the past, and have resolved that, unless decent treatment is henceforth accorded to their tribe, they will rather surrender to the borers and worms than benefit their ungrateful owners any longer. In consequence of which, all those desiring Currants must give the plants proper treatment. This consists, at this season of the year, in cutting out all weak and sickly shoots and one-half of all the old, supplying their places with the strongest of the young growth, which latter should be cut back to about three-fourths of their length.

To produce best results, every part of the bush must be in healthy, vigorous condition. This is not possible when a great many sprouts are allowed to grow simultaneously. Six strong stems, springing from the root, are a good average number to retain; and as young branches bear always larger and better fruit than old ones, it is good policy to remove canes that have borne for two or three years.

All prunings and rubbish on the ground should be carefully raked off and burned, in order to destroy every trace of insect life that may be attached to them.

Now is also the best time for enriching the ground, by spading or forking under lightly a few forkfuls of rotted manure around each bush.

The Tree System of training, which is frequently practiced in Europe, has not proved successful here, on account of the devastation of the borers. When there is only one stem from the root, and this becomes attacked by the borer, the entire plant is destroyed; while in a bush there are other branches to take the place of a dead one.

Raspberries and *Blackberries*, where new plantations are to be made, should be planted now. Autumn is much the best time for planting Raspberries, Blackberries, Currants, and Gooseberries, provided the soil is dry and in good condition generally. Not only because there is so much time gained in "busy spring," but because these plants sprout so early that there is rarely sufficient time in spring to prepare the ground, procure, and plant the roots before they have already sprouted. Therefore, even when the ground is not in readiness for fall planting, or this is for other reasons not practicable, it is a good plan to order the plants before the ground freezes hard and heel them in properly so as to have them ready for early spring planting. If planted in autumn, a light coat of stable litter or other mulching material should be scattered around the plants after heavy frosts.

NEW AND OLD RASPBERRIES.

EDITOR OF AMERICAN GARDEN:

It has become too common in practice to seek to boost or "boom" the new varieties of fruit by decrying the virtues of the old. It is questionable morality. In the September number of THE AMERICAN GARDEN, you pictured the Marlboro Raspberry plant, which was all well enough; but in the printed description—which may not have been your own—the impression is given that the new plant has been tested on different soils by impartial men, and found more profitable than the Hudson River Antwerp, which is not a fact. In character, the Marlboro plant is partly native, like the Cuthbert, and the fruit is fine in quality; but the entire hardiness of both remains to be proved, and their season cannot be prolonged, as is that of the Antwerp. I have in my small city garden a few rows of H. R. Antwerp, from which I picked, daily or every other day, berries for the table, beginning on the second day of July, and ending on the thirteenth of August—a period of over six weeks; while young canes were grown from seven to ten feet in height, which is superfluous growth, as all varieties must be cut back to five feet, within the reach of the boy and girl pickers. It may be said that this comes from special care, but that the Antwerp has not "run out" is proved by the field culture of Mr. J. R. Hawkins, of Mountainville, in this county. I visited his *patch*, on invitation, previous to the ripening of fruit, and requested an account of pickings and sales at the close of the season. From 6000 hills he sent to market over 17,000 cups, or 5670 quarts; and after averaging returns, he finds that the berries brought twenty-one cents a quart. When the Marlboro or the Cuthbert has reached such results it will be time enough to depreciate the worth of the old Hudson River Antwerp as a market fruit; and when the Peach fever is finally burnt out, the fruit-growers of this valley must return to and replant the Antwerp.

A. A. BENSEL.

[The description of the Marlboro in our last number was, as we stated plainly, that of Mr. Caywood, and we had not the least intention to convey the idea that this variety had been tested on different soils, as we know that such is not the case. The only plant that, prior to this year, has been allowed to go outside of the originator's grounds is at the Rural's experiment grounds, where it grows healthy and vigorous and has produced very fine berries.

We agree with our correspondent that its entire hardiness remains to be proved; but not so of the Cuthbert, which has long since passed its years of trial. At the recent meeting of the American Pomological Society at Philadelphia, the Cuthbert has received more praise than any other Raspberry on the list, and is nearly everywhere recognized as the best hardy red Raspberry in cultivation. We have grown it for ten years or more without protection whatsoever, and it never failed to make a vigorous growth and produce a large and profitable crop, while the Hudson River Antwerp we could hardly keep alive, in spite of all the care it received.

We are well aware that the Hudson River Antwerp, where it succeeds, is not excelled as a market berry; but not every one is so fortunate to live in that favored region of the Hudson River Highlands, and many have, therefore, to content themselves with hardier though less excellent kinds. It will hardly be necessary to warn fruit-growers not to rush into planting acres of Marlboro at a dollar apiece. They have had too expensive experiences in this line, but they are willing and anxious to try promising novelties in an experimental way, so as to be able to judge for themselves about their merits; and it is surely the duty of a horticultural journal to inform its readers of the promising novelties that are brought to public notice.—EDITOR.]

GRAFTING CRAB-APPLE TREES.

From practical experience, I can indorse all that John Stahl says in his article on Crab-Apples published in a recent number of THE AMERICAN GARDEN.

He strikes my experience exactly, on the pruning question. I am not a rabid pruner in general, but I know that Crab-Apple trees need to be severely dealt with in this respect.

His treatment of the subject was very complete, so far as the fruit and cultivation of the tree itself was concerned, but he omitted to mention the important relation which Crab-tree culture bears to the successful growing of other fruits in this country, especially the northern portions.

The hardiest and most prolific portion of my orchard is that which I first set out to Crab-Apples, and into which I have since grafted other less hardy varieties of Apples. Crab-Apples are of themselves desirable to a certain extent, but it does not take many trees to supply a family with this kind of fruit, and as a market Apple they are nearly a failure. I had set out a hundred of them, and when they got well to bearing, found that I had an "elephant" on my hands. They were so hardy and fruitful that I could not bring myself to cut them out, so commenced grafting into them. By this means, the hardiness of the Crab-Apple can be combined with the more desirable fruit, and the cost of obtaining a hardy and fruitful orchard in this way is very much lessened. One can usually buy them at the nurseries for $12.00 per hundred, and may do the grafting himself.

This operation should be commenced the second year after they have been transplanted, thus giving them time to get well rooted and growing before imposing the extra strain, caused by the grafting, upon them. Nor should many grafts be put into the tree at a time. The operation should extend through two or more seasons, grafting from a third to one-half each year. Old bearing trees may be grafted, but the labor involved is much increased where the trees are allowed to attain their full size before grafting is commenced.

After being well set, these grafts want frequent care, as the Crab-Apple is such a rank grower that the newly set grafts will stand poor chance if left to their fate. Young shoots will spring out all around the grafts and draw away the much needed nourishment, if not constantly watched and nipped back. Unless the native limbs are well kept back all over the tree, it is of but little use to put in grafts, for they are sure to get smothered and starved by the more rapid growth of the Crab-Apple.

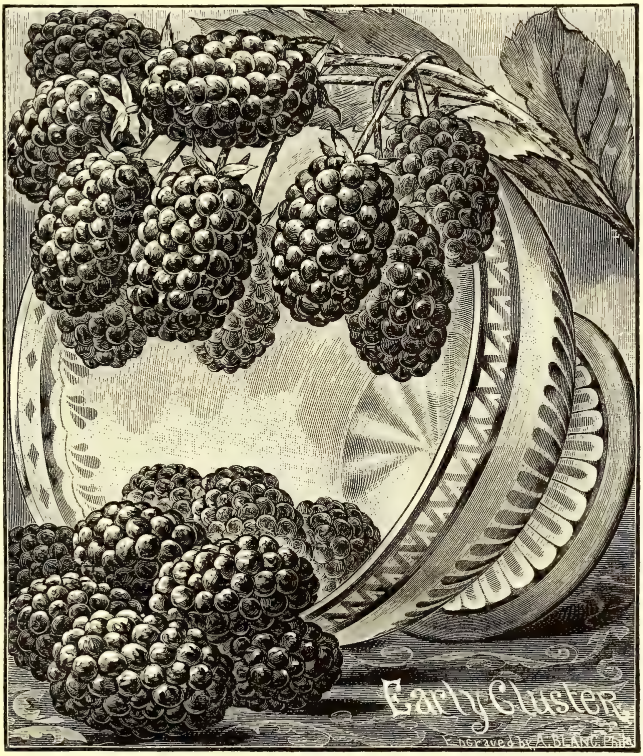
W. D. BOYNTON.

THE EARLY CLUSTER BLACKBERRY.

Our illustration represents the new Blackberry, Early Cluster, now being introduced by Mr. J. S. Collins, of Morristown, N. J., from whom we obtained the following description:

The plant was discovered, about eleven years ago, on the farm of Mr. Charles W. Starn, in southern New Jersey, where it attracted attention for its early and profuse bearing, and was transplanted and propagated for market purposes. It is a vigorous, healthy grower, hardy and extremely productive. The berries are of medium to large size, and of best quality; sweet, without hard, bitter core,— so objectionable in a Blackberry,—and sufficiently firm for shipping. It ripens but little earlier than Wilson's Early; but, as the berries mature promptly, the entire crop is harvested in a few days, before the bulk of the Wilson's Early is marketable. In this consists one of its main points of value, and also in that it is free from the abnormal habit of forming double flowers which has become so disastrous to some of the older varieties.

We have not seen the berry, but many experienced, practical fruit-growers who have given it careful examination are favorably impressed with its merits.


Early Cluster
Engraved by A. Blanc, Phila.

APPLE TWIGS.

One corner of our orchard is low, wet ground. Of course, it is a hard matter to keep an Apple-tree alive there. We were re-setting a tree in that corner some years ago, and the ground was so wet that the hole filled with water nearly to the surface. It was suggested that a dose of ashes might correct the too great moisture of the spot. As the tree was likely to die anyway, I thought it was a good place to try an experiment in, and so went to the ash-barrel and got a bucketful of unleached ashes. The tree was set in the water, the ashes poured around it, and the filling of the hole completed with dirt. The tree was then two years old. This was in the spring. After harvest, the tree blossomed, though frost prevented the maturity of the fruit. We have not a thriftier, nicer tree in the orchard to-day. It is a prolific bearer. Since then I have frequently used unleached and leached ashes on young trees, and always with the very best results.

Our experience on that little corner in our Apple orchard has convinced us that it is poor policy to attempt to maintain an Apple orchard on low, wet ground unless, perhaps, you have enough wood ashes. Such ground is too frosty. Apples do not require much moisture. The orchardist must under-drain. Surface draining is not without value, but it does not fill the bill as under-draining does. Orchardists neglect this. Money cannot be better spent in the orchard than in under-draining with tile.

The Apple-tree is a gross feeder, and will soon exhaust the fertility of the soil unless manure is used. Orchardists seem averse to using manure. Men who perceive the necessity of fertilizing liberally for farm crops are sparing of manures in their orchards. I know of no land that needs manuring more than orchard land. As good a manure as any is well-rotted stable manure; but it may be justly objected to it that it harbors pests.

The first plastering of our house was defective, and some years ago we had it all removed and new plastering put on. We spread the old plastering around the fruit trees, and proved to our own satisfaction that it is a valuable addition to the manures for the orchard. When the orchardist can, he should not fail to obtain it.

I find it best to set out young trees in the autumn. The conditions are more favorable to their growth in the autumn than in the spring, and if any should fail to grow, it can be detected in time to replace them the next spring. Young trees should be pruned severely when transplanted. This will save much pruning when the limbs have grown larger; for, if the top is shaped then, it will be shaped always; and the roots are not able to support much top for some time after transplanting.

Lists of Apples are of only local value, for an Apple that does well in one locality will not in another.

On our western prairies, where the winds are constant and blow from the north-west mostly, the trees should be planted at an angle of eighty degrees to the north-west. It is best for a tree to lean to the south, for then the top will shade the trunk, and often save blistering or bursting of the bark; but the north-west winds will soon bring it over. The direction of the prevailing winds in any locality can be determined by noting the way other trees lean, and trees should be deflected accordingly when planted.

The only effectual way to get rid of borers that I have ever discovered is to cut them out with a sharp knife. Their presence is easily detected, and a long, narrow slit may be cut along their paths till they are discovered. Afterward close the slit with wax, or bind cow manure around it; the former is best.

The best flavored Apple is not always the best market Apple. People like a large, smooth, glossy, red Apple. The Ben Davis and Baldwin are not well flavored, and are worse grained; but because they look well on the outside they are favorites in the market. Taking it all in all, the Baldwin is head and shoulders above all its competitors.

John M. Stahl.

A TREE PLANTER.

A novel device for holding trees at the proper elevation and in a vertical position while being planted, is mentioned by the *Scientific American*.

The planter has three inclined bars secured to each other at their upper ends, and connected by parallel and brace bars, forming a tripod, and provided with hanging springs having their lower ends bent forward and provided with claws for suspending a tree in exactly the required position. To the upper end of the three inclined bars is attached a table provided with four sights, by which the planter can be adjusted from stakes at the side of the field. This invention, which has been patented by Mr. L. Gairaud, Santa Clara, Cal., may serve a good purpose in planting large orchards where it is desirable to have the trees stand upright and in straight rows.

The Flower Garden.

OCTOBER MUSINGS.

Now, what has entered my loved woods,
And touched their green with sudden change?
What is this last of Nature's moods
That makes the road-side look so strange?

What blanched my Thistle's blushing face,
And gave the winds her silver hair;
Set Golden-Rod within her place,
And scattered Asters everywhere?

Who splashed with red the Sumach hedge,
The Sassafras with purple stain;
Gave Ivy leaves a ruby edge,
And painted all their stems again?

Lo! the change reaches high and wide,
Hath toned the sky to softer blue;
Has crept along the river-side,
And trod the valleys through and through.

Discolored every Hazel copse,
And stricken all the pasture-lands;
Flung veils across the mountain-tops,
And bound their feet with yellow bands.

Is, then, October come so soon?
Full time doth summer ne'er abide?
While yet it seems but summer's noon,
We're floating down the autumn tide.

—*Gardening Illustrated.*

SEASONABLE HINTS.

Gladiolus have to be lifted before the ground freezes hard. If they were planted a proper depth,—four to five inches,—light frosts will not injure the bulbs, or corms, correctly speaking. A convenient way to dry them is to dig the corms with their stalks and leaves attached, tie in small bundles, and hang them up in a dry place, secure from frost. After the stalks have become entirely dry, cut them off about an inch from the corm, twist off the old shriveled bulb and roots, and store in a dry, cool place. Named varieties or different shades may readily be kept separate in paper bags. A cellar suitable for Potatoes is well adapted for wintering these and similar bulbs.

Hardy Gladiolus may be taken up and kept in the same manner, or be left in the ground. But although the hardy varieties will survive ordinary winters safely, it is advisable to give them sufficient protection, to prevent the frost from entering the ground deeply, especially where drainage is imperfect.

Colocasias, or Tanyahs, are among the bulbs most difficult to keep through winter in good condition, as our summers are not long enough to mature them perfectly before cold weather sets in. They should be taken up as soon as their leaf-stalks become frosted, the soil shaken off, the leaves cut away, and the bulbs placed in a very warm, dry place; in fact, they can hardly be kept too warm, except one should put them on the top of the kitchen stove or in the baking oven.

Pansies planted outdoors in borders have to be well covered in winter with leaves or some other protecting material, and the plants will bear quite heavy mulching without injury. A lady correspondent writes that, in covering a bed of Tulips last fall, a few Pansies were also covered heavily with leaves, and earth on the top, and that these were the only plants which survived.

CHRYSANTHEMUMS AND THEIR CULTURE.

Chrysanthemums, or *Artemisias*, as they are sometimes called, have been so much improved in the few past years by importations from Japan and China, and by hybridization, that they have become a fashionable flower, and take high rank among the latest autumnal bedding-out plants in the garden.

In China and Japan, "Chrysanthemum shows" are held, and high prizes are offered for the largest and most perfectly shaped flowers, and for new varieties in color and shape which are yearly produced by their florists. Some of their latest novelties are very beautiful in hue, and their peculiarities in the shape of petals and flowers are very curious. Some of them are so deeply serrated, or fringed, that they resemble tassels of colored threads or of cut tissue-paper, while others look like long-legged spiders. Some of them are very small like the Pompone or Daisy flowered varieties, while others are at least six inches in diameter, and are as closely quilled as Asters. Many are party-colored, and a few are blotched or spotted like Carnations of every hue. A large collection of these beautiful plants makes a fine show of flowers, from purest white to richest pink, purple, crimson, orange, lemon-colored, and almost every color under the sun, excepting the blue shades, which are rarely if ever seen; while purple, yellow, red, and pink predominate.

They are divided into five classes, viz: The *Precoce*, or Early Bloomers, the *Large-flowered*, the *Anemone-flowered*, the *Pompone*, or Lilliputian, and the *Anemone-flowered*, and all of them can be most highly recommended for the window-garden as well as for the *parterre*.

The *Precoce* varieties make very fine plants for autumn flowers, as they will bloom in September, or even earlier, and their colors are very bright and pleasing, while their petals are as closely placed as those of the *Calendula officinalis meteor*. They are perfectly hardy plants, and will live out all winter in almost any section of the country if they are covered with boughs of spruce and leaves to prevent the ground from freezing and thawing alternately, and thus disturbing their roots.

The *Large-flowered* varieties are the kinds most generally cultivated, especially those with incurved petals. Their flowers are very large and of beautiful shades, from purest white to darkest maroon, from lightest yellow to the deepest orange, and they are as double as Dahlias.

The *Anemone-flowered* have quilled petals in the center, with strap-leaved outer petals, and they decidedly resemble the quilled China-Asters in both form and coloring, and some of the varieties will produce very large flowers if due attention is given to their needs, with waterings of liquid manure, or by digging soluble Pacific guano about their roots frequently.

The *Pompone* varieties are remarkable for their small Daisy-shaped flowers, and their habit is dwarf and stocky. They are particularly adapted to house culture, and for window-gardening they are most desirable. I would recommend *Pride*, pure white; *Alex Pele*, shaded rose and crimson; *Bob*, crimson; *Bouquet Blanc*, snowy-white; *Circle*, lemon color, shaded to pink; *Model of Perfection*, white, shaded to pink; *Montgolfier*, richest crimson; *Gen. Canrobert*, lemon-yellow; *Sanguineum*, a deep blood-red. With these eight varieties, the conservatory or window-garden can be kept bright and gay with beautiful flowers for a month or six weeks.

The *Japanese* varieties are entirely different from others, and are also dissimilar to other flowers in cultivation, possessing a charm all their own. *La Chinoise* has large flowers of gold color, mingled with maroon; *Magnum Bonum* is of a bright pink; *Golden Dragon* has tassel-flowers of a rich golden yellow; *Bras Rouge* has a deep velvety red, shading to bronze at the tip of petals; *M. Castel* has long twisted petals of deepest yellow and cardinal; *Elaine* blooms early, with flowers of lilac and white mingled together; *M. Planchenau*, blush, tipped with rose-color; *Parasol*, very large flowers, of a bright chamois color.

Chrysanthemums in flower, in the border, can be easily potted, and after two or three days' rest in the shade they will continue to flower indoors for some time. If desired for Christmas decorations, pinch off all the buds as they appear until late in November.

Chrysanthemums are, like Roses, gross feeders, and will well repay all your kind care for them. They also require as much pruning as Roses, to be kept in a fine shape, and if the shoots are all pinched out in early summer, and again late in August, they will form two or three new ones for every one cut off, and make large heads of brilliant flowers late in the season when flowers are not as plentiful as in September.

Judicious pruning will change a straggling specimen into as handsome a plant as a flower lover could desire to possess. I have been carefully tending a *Model of Perfection*, *Pompone* variety, the past two months, feeding it with a tea-spoonful of soluble guano every two or three weeks (it grows in a large pot), and pinching in its stalks two or three times; and now it is a model of form, and soon it will be a model of perfection in flowers. But I shall pinch off its buds until later in the season, when frost and snow will cover all my fair flowers, and I must depend upon my windows for my pleasure in gardening. After flowering, I shall keep the plant in the cellar.

Chrysanthemums will grow in any soil but clear sand, but they will also repay good cultivation with far more beautiful flowers. If their tastes are consulted, you will give them rich garden loam two parts, well decomposed cow-manure one part, and a sprinkling of sharp sand to keep the soil friable. Liberal supplies of water are needful, but do not let it stand in the saucers. When the flower-buds appear, water once a week with weak liquid manure or soluble guano, a table-spoonful to two quarts of warm water. This will fertilize them well. Short sticks should be used to tie up the branches, and thin out the shoots so that every stalk can have sunlight. If the roots are a little pot-bound they will not be harmed this year, but another year turn them out and divide them.

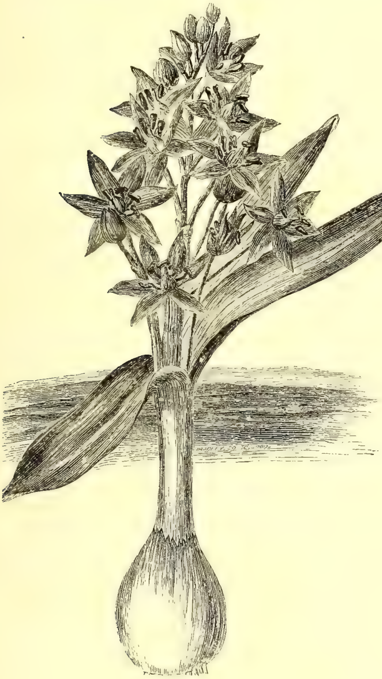
Cuttings will root very quickly in half sand and half soil, and layers will also form roots easily and make nice plants. Chrysanthemums will not grow luxuriantly in gas-lighted, furnace-heated rooms, unless they are shielded from the light at night, and have plenty of fresh air in the day. They will thrive best in a temperature of 50° to 60° by day, and 45° or 40° at night.

DAISY EYEBRIGHT.

SCILLAS.

These pretty bulbs supply a color which without them would be wanting in the spring garden. In Europe, they have the Gentians; alas! not hardy with us, and it is upon Scillas alone, though we have purples in abundance supplied by the many varieties of Crocus, that we must depend for blue in the early bulb borders. The bulbs are small, and resemble little Hyacinths, and require the same culture.

The soil should be rich and light and well drained; indeed, it is well in planting to put a little sand around each bulb, as they often rot during the winter if kept very wet. Although most of the species are perfectly hardy, they are all impatient of freezing and thawing; therefore, it is well to keep frost out of the bed by a thick covering of leaves or coarse litter.


SCILLA SIBERICA.

It is better to plant early in the autumn that the bulbs may become established before winter, but we have had good spring bloom from bulbs which we planted so late in November that we were obliged to make the holes with a crowbar. As the plants are dwarf, they should always be in clumps of at least a dozen; the smaller kinds should be set about two inches below the surface, the larger somewhat deeper. Once planted, they may remain undisturbed for years. They increase rapidly, and every spring make a charming show in the garden, the early kinds blooming with the Crocuses, the later prolonging the season of flowers until June.

S. Siberica, as its name implies, a native of Siberia, is one of the hardiest and best. The flowers are brilliant, intense blue. *S. præcox* is of the same bright color, and is a native of Southern Europe. *S. amoena*, though from the Levant, is generally hardy; the flowers are bright blue on an erect spike.

S. amoenula, produces several flower scapes from each bulb before the leaves. In color and growth, this species greatly resembles *S. Siberica*.

S. cernua, known in catalogues as *S. hyacinthoides*, is a species long in cultivation It bears a great resemblance to the English Harebell *(Hyacinthus non scriptus)*, but differs slightly botanically; the flowers are drooping pale purple or pink.

S. campanulata is one of the finest species; the color is blue, but there are pink and white varieties, of which the latter is the best white Squill in cultivation.

S. verna, an English species, has blue, pink, or white fragrant flowers, as also has *S. bifolia*, a native of France. These two last-mentioned species love a moist, sandy soil.

S. Peruviana, in spite of its name, is a native of Spain and Italy. The flowers are blue or white, in large, erect trusses, and very handsome. It is not very hardy, and is better grown in a frame or pot than in the border.

S. esculenta, called also *Camassia*, is a very beautiful hardy species of the north-western States. It is a late bloomer, but is one of the handsomest flowers of early June. There are many other species, but those we have mentioned are the best. In planting the bulb border, do not forget the Scillas.

E. S. RAND, JR.

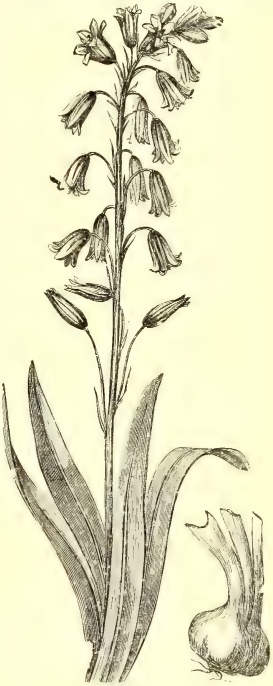
THE ANTIRRHINUM.

The Antirrhinum, which used to be known almost wholly as the Snapdragon, and which few persons call by its proper name even now, is one of our stand-bys among garden flowers. It is a perennial, but it will bloom well the first summer. It blooms so profusely often as to weaken the plant, and thus a long, hard winter finds it with vitality so exhausted that it is unable to withstand the strain, and if it manages to come out in spring with a little life left, it is really good for nothing, and such plants might as well be thrown away as to bother with them. If one cares to winter them, the plants should be prevented from exhausting themselves during the autumn by too profuse flowering by cutting off the flower-stalks. This will induce a strong growth, and one vigorous enough to withstand a long siege of cold weather, and the plants will come out in spring robust and ready to give a good crop of flowers all the season. They can be kept over to the third year by preventing too much use of the plant's vitality by late blooming, but I have never had much satisfaction from the third year's growth. Better raise new plants every other year. I usually put leaves about my plants in the fall, or coarse litter from the barn-yard, if leaves are not conveniently at hand. This I do not remove from the beds until the weather becomes warm enough to start the plants into growth. The Antirrhinums are mostly orange, scarlet, and white, and are very showy flowers. They are so easily grown that any beginner in gardening need not be afraid to try their culture.

R. E. E.

HARDY AND TENDER GLADIOLUS.

I would like to say a word in favor of the Hardy Gladiolus. "Engesseri" is an oddity, but "Marie Lemoine" is lovely; and those who first have this will be agreeably surprised by its beauty. It is like a spike of large, lovely Pansies, light yellow, with crimson stains on the lower petals. I have had two bulbs of each of these two varieties this season, but shall have all the moderate priced ones next year. I think these Hardy Gladiolus do not receive the praise they deserve.


SCILLA CERNUA.

I had a choice lot of hybrid Gladiolus this year, and have found a few kinds extremely pretty. "Baroness Burdett Coutts" was, I think, unsurpassed in beauty, size, or form by any I raised; but its high price will deprive many of it for some time to come. "Africain" is a smaller flower, but a novel color. "Leander" is a near approach to "Baroness Burdett Coutts," and at a third its cost. "Shakespeare" is a splendid flower, branches freely, and is a long time in flower. "Martha Washington" is a splendid light yellow, and a good bloomer. Other specially good varieties are "Mme. Monneret," "Norma," "Ida," "La Candeur," "Felicien David," "Le Poussin," and "Addison."

L. R. COOK.

Lawn and Landscape.

HARDY SHRUBS.

Among the multitude of shrubs which are enumerated in catalogues, those who have not made a special study of them find considerable difficulty in selecting a small number suited for their climate, producing at the same time best effects and as much variation as possible.

After an experience of fifteen years with a great number of shrubs, *Editor E. S. Carman* recommends, in the *Rural New-Yorker*, the following as the best for the average country home:

Viburnum plicatum should be mentioned among the first as one of the most valuable and beautiful flowering shrubs, far surpassing the older varieties of Snowball.

Chionanthus Virginica, White Fringe, is a native shrub or small tree, notable for its large leaves and graceful, drooping panicles of slender-petaled flowers that seem almost to float in the air, so slight are the pedicels which hold them to stems.

Pyrus Japonica, the Japan Quince, should find a place in every garden. The leaves are ever bright and glossy, while the blossoms are almost unequaled for brilliancy by those of any hardy, early blooming shrub. The range of colors is from white through rose to dark red. In clumps or small clusters composed of several or all of the different colors, we have during May a brilliant effect indeed.

Forsythia viridissima and *F. Fortuneii*, Golden Bell, are the finest of the golden blooming shrubs. They begin to bloom about the middle of April, before the green leaves appear, and by May first are a mass of bright yellow. These plants are very effective trained to a single stem. Fortune's Golden Bell bears flowers rather larger in size and a few days earlier than viridissima.

Hydrangea paniculata grandiflora, the Great Panicled Hydrangea has proven very hardy. Its panicles of sterile flowers are often a foot or more in length, changing from a greenish white to pink as the nights grow cold. It is a coarse but showy shrub.

Spiræa prunifolia, the Double Spiræa commonly called Bridal Wreath. The little double white flowers appear in late May, and soon the shrub becomes a mass of white, which lasts until June.

Spiræa Thunbergii is one of the first of all hardy shrubs to bloom. It is a small bush, bearing white blossoms in great profusion.

Deutzias and *Weigelias* in variety may be selected from nurserymen's catalogues, since there is no great choice between them. All are pretty and floriferous.

Exochorda grandiflora bears white flowers resembling those of Crab Apples. The leaves keep green until after frost; the shrub grows to the height of ten feet, and is entirely hardy in this climate.

Cercis Japonica, the Japan Judas tree, wreathes its naked branches in late spring with rosy purple flowers, and later clothes itself with shiny, thick leaves of a heart shape.

Halesia tetraptera, the Silver Bell, is a well shaped little tree, found wild in Ohio and southward. The white bell flowers droop from the stems in small racemes, leaving a winged seed, from which the specific name is derived. The stems of this little tree are clean and shapely, the wood very hard, the bark prettily striated with gray and dark brown.

These, says Mr. Carman, were we again laying out grounds, we should choose if confined to a few. For the rest, we may mention *Pavia macrostachya*, *Stuartia penagyna*, *Hypericum Kalmianum*, the Golden Nine bark, Rose of Sharon, Standard Honeysuckles, Smoke Tree, the improved kinds of Lilacs, and Purple Barberry.

TOP-DRESSING OF LAWNS.

The grass on lawns that are cut close and often, says *A. S. Fuller*, in the *N. Y. Weekly Sun*, should have frequent top-dressings of some stimulating manure, in order to keep them in good condition and of a rich green color. If the blades of grass are kept cut short, they cannot assimilate as much sap as those that are left long or to grow to full size: hence the roots as well as the leaves are restricted in growth, and cannot spread as far in search of nutriment.

In preparing the land for a lawn, some persons go to a great expense in making the soil very rich and deep, expecting by doing this to avoid all expenses for future applications of fertilizers; and while every one will admit that thorough preparation is essential to success, still, where the grass is kept cut short as on a well-shaded lawn, the roots do not penetrate to any considerable depth, and therefore do not reach fertilizers buried very deep, and all such materials are therefore wasted. Depth of soil and plenty of enriching materials may be essential in preparing for a good lawn; but in a few years frequent top-dressings with some stimulating fertilizers will be required to keep the grass in good condition.

Top-dressings in late fall may be made with well decomposed barn-yard manure; but unless it is very fine, there will be much of it to be raked off in spring, or the lawn will not have a clean and bright look. It is quite often the case that lawns have a dull brown appearance during the months of July and August, which is the very season that one desires to have them look best; and, if the weather is dry at this time, there is no way of restoring the grass to its normal color, except by the application of water, which is seldom to be obtained at this season in sufficient quantities to do much good.

But the better way to keep lawns in good condition is to apply top-dressings occasionally during the summer whenever the weather is favorable. Almost any of the standard commercial fertilizers are excellent for this purpose, and if the requisite quantity is obtained early in the season, so as to have it on hand when wanted, it can be applied just before or after a shower, at which time it will do more good. A very light dressing will answer each time, and it is better to apply a small quantity, or just as much as will be dissolved and carried down to the roots, than more. A few weeks later, or when another shower comes, put on a little more if the first application does not suffice to give the grass a vigorous start or growth. An application of plaster will sometimes prove very beneficial in a dry season, and even a light dressing of common salt will sometimes produce a great change for the better in a fading lawn.

The Window Garden

AND GREENHOUSE.

THE WAX PLANT.

(Hoya carnosa.)

Next to the English Ivy, I know of no climbing plant better adapted to culture in ordinary living rooms than the Hoya, or Wax Plant, as it is more popularly known. It grows rapidly, has fine foliage, blooms profusely, and has beautiful flowers, and is easily kept clean, because its thick, leathery leaves can be washed as well as so many pieces of china, with much less danger of breaking them, and its stems are very tough, so that there is but little danger of damaging them in taking down the plant and putting it up again whenever a bath is given it. If it is trained where it is convenient to get at the leaves, it will not be necessary to take it down in order to give it a washing. The only insect that has ever troubled my Hoya is the mealy bug, and I exterminated him by persevering warfare and a hair-pin, ruthlessly dislodging the little pest as fast as he found a new location, and not hesitating to commit murder in the interests of floriculture.

You will often see inquiries in papers to this effect: My Wax Plant is a year or two years old, and doesn't grow. Can you tell me why? Perhaps Hoyas take to growing only when they become well rooted, and perhaps it takes most of them a year or two to get in that condition. I don't know how that is, but I know that I have owned three, and I have never had one make much growth before the second year. I have always raised my plants from cuttings, taken from half ripened wood. Each cutting generally has three or four leaves attached. These cuttings I have struck by inserting them in sand kept wet and warm. The roots will make their appearance in two or three weeks, and in a month or six weeks I pot the plants in a soil composed of one-third leaf-mold, one-third garden soil, and one-third turfy matter from under old sods, with a handful of sand added to each six-inch pot. Usually, the Hoya plant will put out a few new leaves, just enough to show you that it is alive, but I have never had my young plants send up any stems until the second year. When they do begin to grow, they grow very rapidly. My last plant began growing when it was about eighteen months old, and sent up eight stems which averaged eight feet in length in less than five months.

One peculiarity of the plant is, it sends out stems which seem to have only the germs of leaves at first. The stem looks like an exaggerated, uncurled grape-tendril, with here and there little tags attached. By and by these "tags" begin to develop, and ultimately become leaves, usually of a reddish-brown at first, gradually changing to a rich, shining green as they reach maturity. The stems will twine about a string or wire, and need but little training. Whatever support you give them must be quite stout, for a branch with a good many leaves on it is heavy. I had my plant trained on wires, stretched from rafter to rafter in the conservatory; but I would advise stout cords, instead of wires, for convenience in taking down the plant.

The buds make their appearance some time before you can expect any flowers. At first, if you have never seen any Hoyas in bud, you will hardly suspect the little curved, brown stick that you see in the axil of the leaf to be a promise of coming bloom. You will notice that at the end it looks rough, as if it intended to divide itself into a good many pieces when it got large enough, and by and by it will. Each little piece of the "brush" on the end of the flower-stem will develop into a bud, and a cluster will contain, often, as many as thirty flowers, of a pale pink or flesh color, with a star of white wax, picked out with brown, in the center, and of most delightful fragrance. The flowers last for a long time, and when they fall off, the stem that held them remains, and next year it will bear flowers again. My plant had over one hundred clusters of flowers on it last spring and summer, many clusters blooming twice during the same season. There is a green and white leaved variety, *Hoya carnosa variegata*, which is very pretty, but not as robust as the non-variegated variety.

EBEN E. REXFORD.

FERN LEAVES.

In the arrangement of cut-flower work of all kinds, nothing is more essential to its best appearance than a judicious use of some kind of leaves, vines, etc., to harmonize the colors of the flowers used, as also to heighten the general effect. Bouquets, or floral designs, do not look well without a free use of some effective green, and nothing serves this purpose so completely as Fern leaves.

Nearly all Ferns like a moist, cool atmosphere, to produce large, well-formed leaves of a dark-green color. A dry atmosphere generally gives them a yellow, unhealthy appearance, unsuitable for arranging with cut flowers of any kind; and to insure their lasting long after being cut, they have to be grown in a cool temperature. Take Adiantums, for instance (which are the most beautiful Ferns for cut-flower work), when grown in a cool house last much longer after cutting than if grown in high temperature. There are, of course, some kinds which require a higher temperature than others; but all Brazilian species succeed best in a temperate house, and amongst them are found some of the finest in cultivation.

All Fern leaves, before being used after they are cut, should be submerged for half an hour or so in water, as they last much longer and keep their color better than when not subjected to this treatment.

The best kinds for cutting are:

Adiantum affine, of easy culture, and doing well in a general collection of house plants.

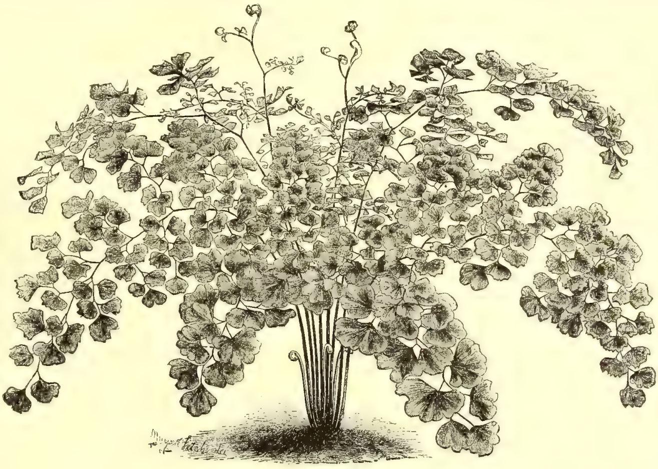
A. assimile.—This beautiful little Fern is of easy culture, and graceful in bouquets.

A. cuneatum.—The best known Maidenhair Fern in cultivation; and where only one is grown, whether for cutting purposes or as a specimen plant, let this be the one. Being a native of Brazil, it does well in a greenhouse temperature. The foliage is graceful, ever-green, and admirably suited for winter work.

A. gracillimum.—Similar to the above, only the pinnules are smaller. For fine work and button-hole bouquets this cannot be surpassed.

A. Farleyense.—The mature fronds of this magnificent Fern are excellent for basket-work, and in fact for any kind of floral designs. Immature leaves soon turn black; therefore, only mature fronds should be used. This Fern succeeds best at the warm end of the greenhouse.

A. decorum.—Another good cool-house Fern for cutting. It is a strong grower, and does well, often even under adverse circumstances.



ADIANTUM CUNEATUM.

Some species of *Pteris* are also valuable for cutting purposes. The best of these are *Pteris serrulata* and its varieties, including the crested ones. They are all easily grown, and suitable for any kind of floral work.

P. argyrea.—A beautifully variegated kind, pretty for baskets and table designs.

P. tremula.—A good, hardy Fern, suitable alike for cutting and planting in hanging-baskets, etc.

Some species of *Davallia*, *Asplenium*, *Lomaria*, *Polypodium*, *Polystichum*, etc., are also suitable for cutting.

In every collection of plants a few of the above should be grown, and, if not wanted for cutting purposes, as specimens to decorate the greenhouse or window garden.

MANSFIELD MILTON.

HEATING SMALL PLANT HOUSES.

There is probably no subject that offers more difficulties to the amateur florist than the heating of small greenhouses and conservatories; and the following plan, which recommends itself by its cheapness, simplicity, and effectiveness, may at this season of the year suggest a feasible expedient to some of the readers of THE AMERICAN GARDEN.

While employed, some years ago, in England, by a gentleman who found that the usual brick flues required more time and attention than could be given by his gardener, I constructed a cistern under the plant stand, the whole length of the house. This tank was made of planks, the joints laid in white lead. Over its entire length was placed a box six inches deep, and containing sand, which served as a cover and was used for the propagation of various plants by cuttings. The heating apparatus consisted of a small copper boiler holding about eight gallons. From the top of this a lead pipe communicated with the top of the cistern, and another pipe, protected against the fire, ran from the bottom of the tank to the bottom of the boiler. The management of this apparatus required but little care and time, while a continuous and uniform heat was maintained at a comparatively small cost.

I have since fitted up a similar and still less expensive apparatus, in which the boiler of the kitchen range supplied the necessary heat, and common iron gas-pipes were used for the conveyance of the water.

It will readily be perceived that the large body of warm water will keep up a more steady and uniform heat than could be produced by pipes alone; and if the supply pipe is carried to the extreme end of the tank, the water will be kept in constant circulation.

Various modifications, adapted to existing conditions, might be suggested. For a small room, an ordinary stove could be used; and as there is little or no pressure of steam, almost any metallic vessel that holds water may be made to serve the purpose of a boiler.

R. COLE.

LILIUM AURATUM FOR POT CULTURE.

In a former number, the AMERICAN GARDEN quotes from Mr. Endicott: "Lilium auratum is not suited for pot culture." I asked him why, for I heard him read that essay, and he told me that the flowers were so big that they were unbecoming on a pot plant, or words to that effect. Yes, but this Lily is exceedingly fickle as an outdoor plant; sometimes it grows and blossoms superbly, and again it defies cultivation in our borders. But as a pot plant or grown in a frame, I never knew it to fail. And surely it has no larger "blossoms" in its way than have *Poinsettias*, *Luculia gratissima*, and *Medinilla magnifica*, and behold what a magnificent display they make as greenhouse pot plants. My advice to your readers is, if they fail with it as a hardy border Lily, grow it in pots.

WM. FALCONER.

Foreign Gardening.

ORCHIDS AT HOME.

Epiphytal Orchids are essentially heat lovers; like Palms, they are children of the sun. One may often travel a long way in Borneo and other Malayan islands, where these plants are most abundant, without catching a glimpse of them, and this is especially true of *Phalænopsis grandiflora*, which is of all Orchids perhaps the least obtrusive in its native habitats. This trait is, however, the unobtrusiveness of high birth; they do not care to touch the ground, but rather prefer a sphere of their own high up in the trees overhead. The plants have a charming freedom of aspect as thus seen naturally high up in mid-air, screened from the sun by a leafy canopy, deluged with rains for half the year or more at least, and fanned by the cool sea-breezes or monsoons, which doubtless exercise some potent influence on their health—an influence which we can but rarely apply to them artificially; and the greatly modified conditions under which we must perforce cultivate them may not render this one so desirable as it appears to be abroad.

In the lowland forests near the Equator a peculiar phase of vegetation is not unfrequently seen. Trees one hundred or two hundred feet in height tower upward on all sides, and one walks in the shade,—diffused light is, perhaps, the more correct expression,—the tree-trunks being the pillars of Nature's cathedral, and the leafy branches high up above representing the roof. All the vegetation you see around you, on earth, rocks, or fallen trunks, is represented by a few Ferns, *Lindsayas*, with bright, steel-blue fronds a yard high, broad-leaved aroids or ginger-worts, but Epiphytes of all kinds seem totally absent; and the truth is that, like lovable "Tom Bowling" of Dibdin's minstrelsy, they too have "gone aloft."

Above you is a world of light and air and sunshine, which birds and insects and flowers alike enjoy. You feel very small and helpless as you try to catch a glimpse of the plants and flowers so high above you, and almost envy the long-armed red monkeys that swing themselves so easily from bough to bough. The monkey, however, has a rival in the human natives of these forest wilds, and it would be extremely puzzling to find a tree so thick or tall, or otherwise so difficult to climb, that the lithe and dusky native would not reach its summit.

This is in the forest primeval; but near clearings or on the skirts of the forest near rivers, which let in the light and air, the the Phalænopsids and other Epiphytes are less ambitions, and they may then be found in positions but little above the more plebeian kinds of terrestrial vegetation. This is also the case when, as sometimes happens, they are found on the trees which fringe little islands; and then not only do the plants receive a good deal of sunshine as it streams through the leafy twigs of the branches to which they cling, but it is also reflected back again from the glistening sea. The intense light in which they thus exist, added to the fervent heat and the deluge of rain which falls during six or seven months of the year, accounts for the enormous root and leaf growth made by these plants in their natural habitats. The flowering is not so extraordinary—indeed, rather disappointing, after the result which may be seen in English gardens. It is not so much the paucity of flowers produced, however, as their early destruction, caused by "unbidden guests" the Orchids are made to entertain.

High up overhead the most lovely Orchids hold their court in the sunshine; here they are really "at home," to their winged visitors. Now and then you come across a newly fallen tree—a very monarch of the woods—which has succumbed to old age and rough weather at last, and has sunk to the earth from where it sprang a seedling generations ago, its branches laden with everything inanimate which had there made a home. Some of these ruined trunks are perfect gardens of beauty, wreathed with graceful climbing plants and gay with flowers and foliage.—*Burbidge's "Garden of the Sun."*

Rural Life.

LIVING FROM THE GARDEN.

The greatest pleasure in life consists, after all, in the hope of the good the future may bring, in the anticipations of our expected successes, and in planning for the ways and means to attain the desired results. In gardening especially, half of the battle consists in properly matured plans and systematic methods of work. Many fail because they undertake too much; yet, as every failure leaves us richer in experience and better prepared to avoid similar ones, there is a gain in failures even.

There is something fascinating and charming in the courageous enthusiasm and assuring hopefulness of the beginner in practical gardening, which only those can fully realize who for many years have been pent up in a large city and finally find their long deferred wish of the possession of a country home gratified. The following letter from our correspondent, "East Dedham," is so life-like, and describes so vividly the first year's gardening experiences and expectations of many, that we give it in full:

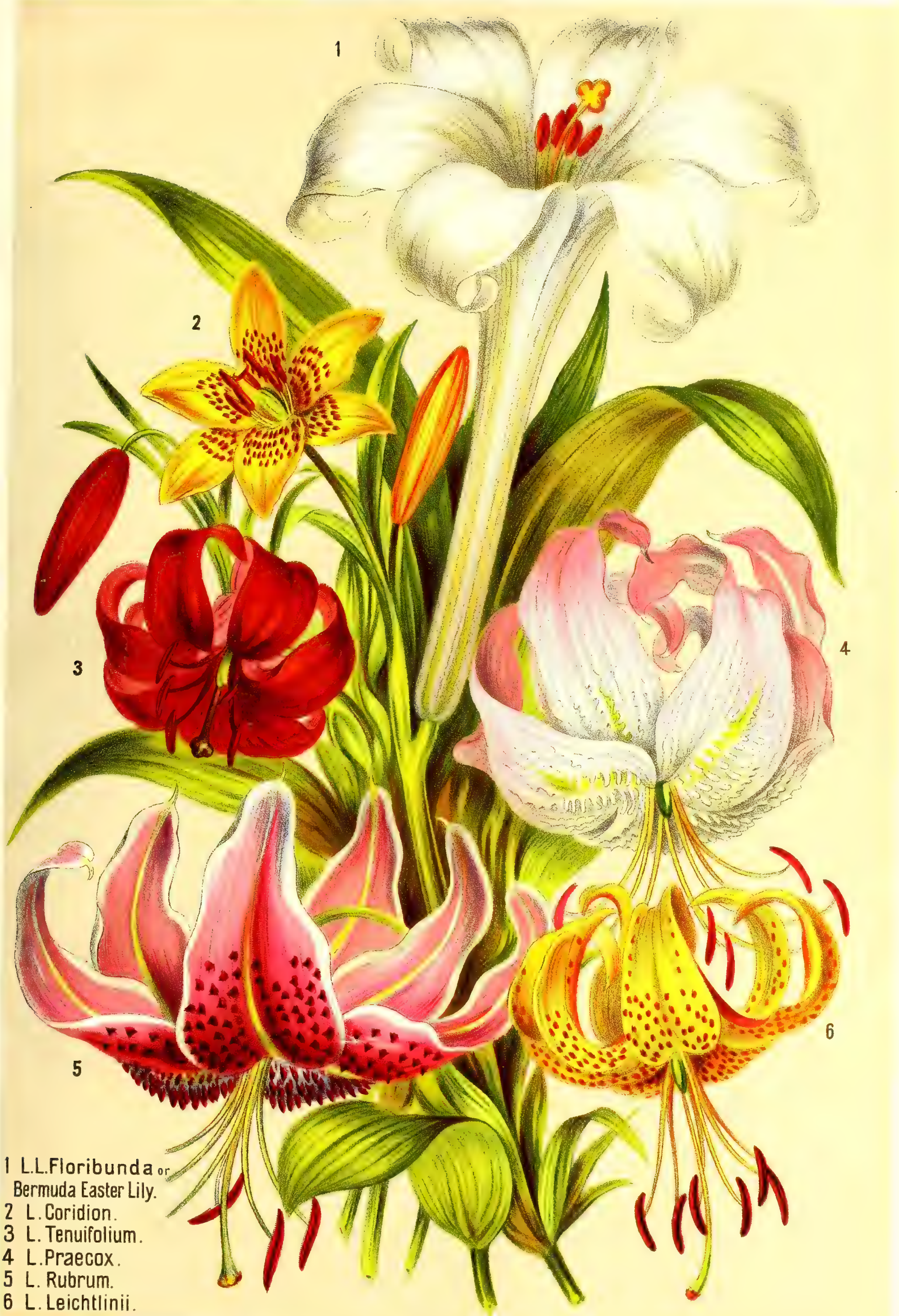
"I live in a good neighborhood, close to a country station, ten miles from the city, where each house has its garden, and every man might have as much land to cultivate as he chose, rent free. The families are not rich, but intelligent and of good tastes. They like to make their salaries go as far as possible, to have something for concerts and journeys. No true American thinks himself bound to save anything nowadays on a limited income. Each one raises Potatoes enough for the year, summer berries and Green Corn and Peas for the season. Every house has its flower-border, gay with Gladiolus, Scarlet Geranium, Petunias, and autumn Dahlias. Everybody says a garden is a great help; yet no one thinks of making as much by it as he can.

"It is a fact that one cannot find a head of Lettuce in the town, unless brought from Boston, at six cents apiece; nor a Tomato plant, nor an early Radish or peck of Spinach, nor bunch of fresh Thyme, or a leaf of Tarragon—though, by the way, you can't find that in all Boston, save at rare intervals. The middle of August, everybody is out of Green Peas and early Sweet Corn; the late has not come on, the Tomatoes are drying up, and the Irishwomen who board the factory hands have to pay six cents a quart for every Tomato they use. You can't buy a quart of Blackberries or Raspberries anywhere, save as a favor.

"Now, this state of things, not at all uncommon, but rather the rule in country places, is a shiftless disgrace. We bought our place and moved out in May, so that things are not as we would have them. But if I pay fifty cents a dozen for Tomato plants, and go without Lettuce next year, as I have this, and as the neighbors did, I shall not think much of myself. I came into the country to live as well as nature allows. I propose to have Lettuce as fine as the market affords all the year around, with the aid of cold frames and hot-beds, and I want fresh herbs to add flavoring to the Salad. A hundred feet of herb-border is started already, with not only Sage and Thyme, but nearly all the herbs that figure in seed lists. I have sent for the earliest and the latest Strawberries I can hear of, to have three months of that delightful fruit in place of one. Radishes shall last the year round, like Lettuce, and Peas end with frost; but by sheltering Tomato vines we will have them in November. Egg Plant and Okra, Salsify, Celery, and Celeriac, fresh Turnips, Carrots, Onions, Kale, besides spring and fall Asparagus and fruit of every denomination the garden will hold, are to furnish our table with what every American household ought to have. With Chickens, Rabbits, Ducks, and Pigeons of our own raising, I trust we shall not know hunger or lack variety.

"What is there in this modest list any house in the country should not have? The boys hang about all summer, complaining it is so dull they don't know what to do with themselves. Why are they not taught to take pride and pleasure in keeping a garden?

"I have gone so far as to plan an orchard-house, that we may have the pleasure of ripe fruit in winter. If I choose to stay at home all summer, instead of going to the mountains, and save the money to build such an addition to the home, and bring Florida to my doors for the rest of my winters, who will say it is not a wise thing? I wish to find my home pleasanter than any spot I am likely to see, and all that tree, plant, and flower can do for it is to be done. There is economy in it. People here spend more in railway fares on journeys to insipid places, in butchers' meat at ten per cent. over town prices, and cheap forms of diversion which to me are intolerable, to give themselves the material luxuries of the wealthy. I see the house of my millionaire neighbor across the valley without envy. She can have no finer Roses than I do from my little conservatory; no finer fruit than I grow for myself; no better books than the great libraries give me; no prettier home than mine, with its flowers and shrubbery when grown; no pleasanter table; no better bed than mine, with its lavendered linen sheets. Yet I have these within the compass of $2000 a year, thanks to my garden. It pays for the manure and plants I buy from what we sell of surplus fruit and vegetables, leaving my flowers, which are my luxury, clear of expense. A good deal of brains go into it, and much hard work; but I don't know where one could find better return."



1 L.L.Floribunda or Bermuda Easter Lily.
2 L. Coridion.
3 L. Tenuifolium.
4 L. Praecox.
5 L. Rubrum.
6 L. Leichtlinii.

GROUP OF HARDY LILIES

Supplement to the

"AMERICAN GARDEN" B.K.BLISS & SONS Publishers, NEW YORK.

Horticultural Societies.

AMERICAN POMOLOGICAL SOCIETY.

This society held its nineteenth biennial session on the 12th, 13th, and 14th of September, in Horticultural Hall, Philadelphia. A great number of members and delegates from nearly every State in the Union were present and took part in the discussions, which were highly interesting and animated. It would be impossible to give, in the space at our disposal, even in outline, an account of the three days' proceedings. These will be reported in full in the *Transactions of the Society*, forming a large, handsome volume, containing the complete fruit catalogue for every State, which, as soon as printed, will be furnished free to all members.

After a long debate and a friendly rivalry between Indiana and Michigan, it was decided to hold the next session in Grand Rapids, Mich.

The chief officers elected for the next two years are:

President, Hon. Marshall P. Wilder, Boston, Mass.

First Vice-President, P. J. Berkmans, Augusta, Ga.

Secretary, Professor W. J. Beal, Lansing, Mich.

Treasurer, Benjamin G. Smith, Cambridge, Mass.

The efforts of the Pennsylvania Horticultural Society to make the meetings and the visit of their guests as pleasant as possible were eminently successful and highly appreciated. Nothing was left undone that could contribute to the comfort and enjoyment of those present, and the only disappointment that marred the anticipated pleasure of many was the absence of President Wilder, who was not well enough to undertake the journey. Yet, even while absent, his deep interest in the promotion of the society and its objects is not flagging; at the venerable age of eighty-five, he is as full of vigor and energy as ever, and untiring in his noble work for progress, improvement, and elevation of Pomology. The recommendations for the adoption of a better system of nomenclature, embodied in his excellent address, and from which we quote the following, are eminently appropriate, and deserve most careful consideration:

"RULES OF POMOLOGY.

"In former addresses, I have spoken to you of the importance of the establishment of short, plain, and proper rules to govern the nomenclature and description of our fruits, and of our duty in regard to it; and I desire once more to enforce these opinions on a subject which I deem of imperative importance. Our society has been foremost in the field of reform in this work, but there is much yet to be done. We should have a system of rules consistent with our science, regulated by common sense, and which shall avoid ostentatious, indecorous, inappropriate, and superfluous names. Such a code your committee have in hand, and I commend its adoption. Let us have no more generals, colonels, or captains attached to the names of our fruits; no more presidents, governors, or titled dignitaries; no more monarchs, kings, or princes; no more mammoths, giants, or Tom Thumbs; no more non-suches, seek-no-furthers, ne plus ultras, hog-pens, sheep-noses, big bobs, iron-clads, legal tenders, sucker states, or stump-the-worlds. Let us have no more long, unpronounceable, irrelevant, high-flown, bombastic names to our fruits, and, if possible, let us dispense with the now confused terms of Belle, Beurre, Calebasse, Doyenne, Pearmain, Pippin, Seedling, Beauty, Favorite, and other like useless and improper titles to our fruits. The cases are very few where a single word will not form a better name for a fruit than two or more. Thus shall we establish a standard worthy of imitation by other nations, and I suggest that we ask the coöperation of all pomological and horticultural societies, in this and foreign countries, in carrying out this important reform.

"As the first great national Pomological Society in origin, the representative of the most extensive and promising territory for fruit culture of which we have any knowledge, it became our duty to lead in this good work. Let us continue it, and give to the world a system of nomenclature for our fruits which shall be worthy of the society and the country,—a system pure and plain in its diction, pertinent and proper in its application, and which shall be an example, not only for fruits, but for other products of the earth, and save our society and the nation from the disgrace of unmeaning, pretentious, and nonsensical names, to the most perfect, useful, and beautiful productions of the soil the world has ever known.

"Every year brings additional proof and confirmation of our predictions in regard to the wonderful progress and facilities for fruit culture in this western hemisphere. This impresses me more and more strongly with the duty of giving a right direction to one of the most important sanitary and benevolent industries of our land, and, as far as possible, controlling the recommendation of the host of new fruits, of little merit, which are being constantly brought to notice; and while commending and disseminating all good varieties, let us, if possible, restrain the flooding of our country with those of inferior quality and little value. Let us use our utmost exertions to discourage and restrain the outrageous deceptions, which every returning season brings, by new fruits sent forth with the highest praises, as if superior to anything before known, but which in a few seasons are found no better than many old kinds, if as good. The plea of ignorance cannot be urged in extenuation of such practices, while the means of information are as accessible as they are now. Such deceptions no honest or honorable man would practice.

"IMPORTANCE OF THE SOCIETY.

"Few are aware of the powerful influences which this Association has exerted and is exercising on the pomology of our country. Its organization covers our entire continent, and its importance and usefulness is everywhere, both at home and abroad, highly appreciated and acknowledged. No event in the history of pomological science during the present century has been fraught with such beneficent results as those which have transpired since the founding of our Association. This institution, now in the thirty-fifth year of its existence, embracing as it does official representatives of the best experience from every section of our immense domain, all working in harmony to carry out our work to higher and higher degrees of improvement, has assumed proportions which are not only national but continental, and embraces in its organization the largest territory and the most wonderful facilities for fruit culture on the globe.

"Other societies for the promotion of pomology have been formed and are powerful adjuncts; other societies will rise up to aid us in the future; but the American Pomological Society will continue to be, as it has been in the past, the acknowledged authority of pomology for this western hemisphere.

So may it be, so may it spread its benign influences over our whole continent, until every man, woman, and child shall participate in its enjoyments, and all realize the blessings of paradise regained on earth."

NEW-YORK HORTICULTURAL SOCIETY.

After a two months' summer vacation, the Society resumed its monthly meetings with its first autumn exhibition on Sept. 4th. The attendance was not as large as might have been desired, which is readily accounted for by the fact that many members and others interested in flowers are at this early date still residing in the country.

The leading features of the exhibition were the brilliant displays of Gladiolus, filling a wide table of nearly the entire length of the hall. The first prizes for Gladiolus were awarded to Hallock & Thorpe, the second to C. L. Allen & Co. The premium collection of twelve varieties was composed of unusually fine spikes of *Africain*, *Norma*, *Queen of the Fairies*, *Blondina*, *Bridal Beauty*, *Colonel Bodine*, *May Morning*, *Sir H. Halford*, *Delicatissima*, *Martha Washington*, *Thos. Dixon*, *and Colonel Stuart Wortley*. The latter, which also was awarded the first premium for the best seedling, is a superb variety with very large spikes and flowers of red and delicate rose tints, with pure white throat.

Dahlias, Geraniums, and Petunias came next in order, and were fully up to the highest standard. There were also some meritorious collections of Zinnias, Phloxes, Asters, monstrous Coxcombs, and various bedding plants.

Mr. George Such's collection of cut flowers, although much the smallest in numbers of specimens, was so far superior to what is usually comprised among cut flowers that it attracted marked attention, and, as an example to other exhibitors, is worthy of special mention. It was composed of: *Vallota purpurea*, *Passiflora princeps*, *Dipladenia Brearleyana*, *Montbretia Pottsii*, *Stephanotis floribunda*, *Lapageria rosea* and *alba*, *Eucharis grandiflora*, *Ixora Javanica* and *Williamsii*. *Allamanda Schottii*, *Pancratium ovatum*, *Griffinia hyacinthina*, *Dipladenia amabilis*, *Lælia Dayana*, *Oncidium papilio*, *Dendrobium chrysanthum*, *Calanthe Textori*, *Cypripedium Rœzli*, and *Sedeni*, and a few seedling *Gladiolus*.

Among the Orchids, of which there were some very choice specimens, a new species, exhibited by Mrs. M. J. Morgan, was especially notable. *Phalænopsis violacea* is comparatively a small plant with deliciously fragrant flowers with purple carmine center. white petals, and delicate green flushed tips.

The exhibits of vegetables and fruits were, owing to the unfavorable season, not equal to those at former exhibitions.

Miscellaneous.

WEATHER PREDICTIONS.

"Is the fall likely to be dry or wet?" is the essence of an inquiry before us. Nothing would give us more pleasure than to be able to give a correct answer to this question. If we could, we would secure a patent as "weather prophet" and make more money in a year than all the editors in the United States together. How little reliance there is to be placed in those who pretend to be able to foretell the weather of a season appears from the following letter of the Chief Signal Officer of the United States to the *New York Tribune*. He says:

"It is absolutely impossible to predict a storm for more than a few days in advance. The information cannot be too widely distributed, that no one can foretell even the general character of a coming season, much less the occurrence of a particular storm in that season. It is possible that the advance of our knowledge may at some time enable us to predict the weather for many days in advance, but this is not possible at the present time. Meteorology is yet in its infancy, and no one is yet able to anticipate the occurrence of a meteorological phenomenon for more than a few days—a week at the most. If any one will take the trouble to verify the weather predictions which, in these days, are so frequently made by the actual weather experienced, he will find that about half of them are fulfilled and half fail. When a given prediction is fulfilled, it is often made a matter of marked comment, while the unfulfillment of a similar prediction at another time is passed over in silence. The impression, therefore, prevails that reliance can be placed upon the forecastings of weather prophets, but this impression will be removed by any one who will give attention to the subject. A series of simple guesses, based upon no reasoning whatever, will come true in the long run as many times as they will fail. Until, then, weather predictions are fulfilled more times than they fail, they must be regarded as equivalent to guesses and as having no value whatever. All predictions of the weather to be expected a month or more in advance, whether based upon the position of the planets, or of the moon, or upon the number of sun spots, or upon any supposed law of periodicity of natural phenomena, or upon any hypothesis whatever which to-day has its advocates, are as unreliable as predictions of the time when the end of the world will come."

MEXICAN MARKETS.

The markets are among the most picturesque sights in Mexico, writes a correspondent of the *Springfield Republican*. Not only are the tropical fruits and vegetables and the national wares and commodities strange to us, but the habitans are stranger still. The seller, whether man or woman, sits upon the ground, with his wares ranged in little piles upon a blanket or piece of canvas before him. If a man, he is silent and taciturn, but never forgetting to cheat you out of a cent or two in "change," and wears a wide, old sombrero pulled down over his shaggy brows, sandals laced with leathern thongs upon his dusty feet, and a huge bright-hued zarapa (rug) wrapped closely about his shoulders, however hot the day. If a woman, she is garrulous and coquettish, her long, black matted locks entirely uncovered, a loose chemise not in the least disguising her figure to the waist, and bare, brown legs protruding from her scanty red petticoat.

In every market-place is always a fountain, or great stone well, and to it come Egyptian figures,—boys with long poles over their shoulders and pails balanced from either end, and bare-footed women in short, bright petticoats, in picturesque attitudes,—one hand upon the hip and the other dark, slender arm stretched up to hold the great water-jar firmly upon the shoulder. In the far East, centuries ago, Rebecca carried just such pottery, in similar fashion, when Jacob saw her at the well. In Mexico, nobody goes to market but the servants, and sight-seeing tourists. A lady or gentleman of the better class would no more be seen there than would you, dear reader, at the *Theatre Comique*.

A GRAND RAISIN VINEYARD ENTERPRISE.

The largest sale of land ever made in southern California for fruit purposes has just been completed at Ontario to the San Bernardino County Raisin Company of Boston, Mass. This company, as the *Riverside Press and Horticulturist* informs us, has recently been organized with a capital stock of $1,000,000.

The lands selected are located in a solid body on the railroad east of Ontario. The water will be piped to the highest corner of each ten-acre lot, and the company will have a steady stream of one hundred inches of water continuously flowing upon their lands night and day, or two hundred inches of day water. It is intended to plant not less than five hundred acres to vineyard this coming winter, and, if possible, a larger acreage.

This vineyard, when completed, will be the largest raisin vineyard on the coast, and probably the largest one in the world. The company is composed of wealthy men, and their endeavor will be to establish a brand for their raisins that will stand high in the markets. Already heavy raisin dealers in Boston and London have signified their desire to handle their crop when the vineyard comes into bearing.

The raisin industry is as yet in its infancy on this coast, and the yield this season is estimated at 125,000 boxes. California raisins have been brought into competition in the eastern cities with the imported article, and have stood the test, both as regards quality and price, and that, too, at very satisfactory figures to the producer.

BUILDING IN NEW-YORK.

The New-York *Mail* says it is probable that the number of buildings in this city at the end of this year will be 100,000. The number erected last year was 2561, and the indications are that a larger number will be put up this year. The amount expended in this way in 1882 was nearly $45,000,000, and it is thought this year it will be $70,000,000. The value of real estate is higher than ever before. A lot at the corner of Broad street and Exchange Place was recently sold at the rate of $15,000,000 per acre. The best land on Broadway is worth $2,000,000 an acre.

BOOKS AND PAMPHLETS RECEIVED.

Neltnor's Fruit, Flower, and Vegetable Grower is a bright and carefully edited quarterly, published at Turner Junction, Ill. It contains a large amount of original and selected matter, and costs but 75 cents a year.

The American Journalist, ***St. Louis, Mo.***—This new monthly seems excellently qualified to supply the journalistic profession with a medium to represent the interests of its members. The initial number is a praiseworthy and able piece of editorial as well as typographical work, and contains interesting articles on Western Journalism, French Journalism, Sporting Journalism, Old Ruts in Printing Machinery, and a great number of minor Newspaper Notes.

New-York Produce Exchange, Annual Report for 1882, and Semi-annual Report from January 1 to July 1, 1883.—We are indebted to Mr. W. J. Rose, Clerk of the Board, for these elegant and valuable volumes. They contain, in addition to the Charter, By-laws, the several Trade Rules adopted by the Exchange, and a list of members, the Report of the Statistician of the Exchange. These statistics, with accompanying tables, comprise all the produce imports and exports, as well as the amount and value of all home receipts, not only at this port, but in every important commercial city on the globe. The amount of statistical information given here is enormous, and the excellent and systematic arrangement of the tables gives additional value to the volumes.

Montreal Horticultural Society and Fruit Growers' Association of the Province of Quebec, Annual Report.—This society, which appears to be in a flourishing condition, devotes considerable attention to the introduction of fruits adapted to the climate of Canada; and the persevering efforts of Mr. Charles Gibb have already been productive of much good in this direction. The report contains interesting papers on Russian Fruits, and Notes on Trees and Shrubs of Northern Europe and Asia, by Charles Gibb; Experimental Horticulture, and Not well-known Trees and Shrubs, by Professor J. L. Budd; Fine Fruits of Russia, by Heinrich Goegginger; Russian Apples in Wisconsin, by A. G. Tuttle; On Seeds from the Cape of Good Hope, by Colonel Rhodes; The Principles of Successful Orcharding, by R. W. Shepherd, Jr., etc.

The Paper Mill Directory of the World, a complete catalogue of all the paper and pulp mills on the globe. Issued annually by *Clark W. Bryan & Co., Holyoke, Mass.* This elegant and conveniently arranged volume shows at a glance the name, firm, location, specialty, and capacity of every paper and pulp mill, and must therefore be of great value and usefulness to every one connected with the manufacture and trade of paper. The amount of labor and expense necessary to compile such a work must have been enormous, and would have frightened any publishers possessed of less pluck and enterprise than Clark W. Bryan & Co.

The statistics given show that there are 4463 paper and pulp mills in the world; and that of these there are 1099 in the United States, 1108 in Germany, 555 in France, 438 in Austro-Hungary, 289 in England; while the entire South American continent has but two.

Ohio Agricultural Experiment Station.—Bulletin No. 1. Experiments with Wheat, 1882-83.—As Wheat is one of the staple products of Ohio, and information about the best methods of culture and the varieties best adapted for the State is of vital importance to every farmer, *Director W. R. Lazenby* presents to the public, in advance of the regular annual report, a summary of the more important experiments and tests made with this crop at the station during the past year. The tests made have been divided in—1. Comparative tests of varieties; 2. Thick and thin seeding; 3. Winter protection and spring cultivation; 4. Early and late plowing and sowing; 5. Application of fertilizers; 6. Preparatory culture and method of seeding. Among the most important practical conclusions derived from these experiments are: That if all the conditions were at their best, three pecks of seed per acre would be ample; but as this is seldom or never the case, more seed is usually required. In designating the best time to sow, the conditions of the soil and the exposure, the presence of the Hessian fly, etc., must all be considered. According to these, the best date for sowing Winter Wheat in Central Ohio is from September 10th to September 30th. The conclusions derived from the experiments with concentrated fertilizers are especially interesting. We shall refer to them more fully in a future number.

N. W. Ayres & Sons' American Newspaper Annual, 1883, Philadelphia, contains a carefully prepared list of all newspapers and periodicals in the United States and Canada, arranged by States in geographical sections, and by towns in alphabetical order.

In this list, also, is given the name of the paper, the issue, general characteristics, year of establishment, size, circulation, and advertising rates for ten lines one month.

It also contains a carefully prepared description of every county in the United States, as well as of each State and Territory as a whole, and of each of the Canadian provinces, giving valuable information concerning their mineral deposits, chief agricultural products, principal manufactures, nature of the surface and soil, location, area, population, etc.

There is no other single publication within our knowledge which contains information of such varied use and value for general business purposes. Complete in all its departments, thorough in its details, giving just the information needed, and only that, simply arranged, easily referred to, carefully compiled,—it is, in fact, a model work of its kind.

Price $3.00, carriage paid.

The American Farm and Home Cyclopedia, by *Horace R. Allen, A. M., M. D.* Published by *W. H. Thomson,* Philadelphia.—The title does hardly justice to the contents of this work, as it comprises not only matter pertaining to the farm and home, but information on almost every subject imaginable. In fact, it would require much less time to enumerate what is not in it than to name its contents. The leading topics treated successively are Agriculture, Live Stock, Horticulture, Law and Business, Hints on Money-making, Architecture, the Household, Outdoor Sports and Pastimes, Miscellaneous Topics, Hygiene, the Sick Room, Home Medication, etc. Each department is subdivided into convenient divisions, forming in themselves condensed manuals on the respective subjects, and the whole is interspersed with over two thousand illustrations. It would require a year to give a careful perusal to the entire work, but even a hasty examination shows that the author has taken great pains to obtain the most reliable and practical information on every subject, and to arrange all so that every detail can be referred to with the greatest ease. We do not know of any other volume which contains so vast an amount of useful information. The mechanical execution is superior to most books of this kind. The volume contains over one thousand large octavo pages, and is substantially and handsomely bound. To any one at all interested in rural affairs, and desiring a cyclopedia of general useful knowledge, this elegant work will make a valuable addition to the library.

The New-York State Experiment Station—*First Annual Report of the Board of Control.*—When it is considered that the farm near Geneva, where the station is located, passed to the State only in February, 1882, and was not taken possession of by Dr. E. L. Sturtevant, the director, before March 1st, and that no preparations whatever had been made previous to this date, the amount of work done during the year, and which is minutely recorded in this pamphlet, is simply wonderful.

The theory under which the direction of the station is acting is the necessity of applying to agricultural research the principles which have accomplished so much in the pursuit of science, namely, the accurate ascertaining of facts, then the grouping of these facts in order to show the laws under which these facts are produced and modified, and finally the test, or verification. Agricultural experiment also includes the adaptation of facts and laws obtained to practical affairs.

The province of an agricultural experimental station is not so much the discovery of new facts as it is the testing of applications and the theory of relations. Its ultimate object is to give expression to values which shall assist the farmer in the largest sense in meeting and overcoming the various obstacles which arise in the practice of his pursuit.

The experiments made, and the results deduced from the same, comprise several of our leading crops,—Corn, Potatoes, Wheat, Beans, Forage Crops, various vegetables. Some of them we have already mentioned in previous numbers, and to others we shall refer hereafter.

It would be impossible to accord even faint justice to the director and his assistants in endeavoring to give, in the limited space at our disposal, a *résumé* of the valuable services rendered already by the Station to the farmers of this State, which only those can appreciate who give the pamphlet a careful study. Residents of the State may obtain this report from the Assemblyman of their district; the station has none for distribution.

CATALOGUES RECEIVED.

Jenkins' Nurseries, *Winona, O.*—Price-list of Plants and Trees. Specialties for this season are Strawberries, Tree seedlings, Catalpa speciosa, etc., etc

William Parry, Pomona Nurseries, *Parry P. O., N. J.*—Fall Catalogue of Fruit Trees and Small Fruit Plants. The new Pedigree Blackberry Wilson Junior a specialty.

John S. Collins, *Moorestown, N. J.*—Descriptive Circular and Price-list of the new Early Cluster Blackberry, together with many letters and testimonials as to its merits.

H. S. Anderson, *Union Springs, N. Y.*—Descriptive Catalogue and Price-list of the Cayuga Lake Nurseries, with an excellent colored plate of the Duchess Grape. A select list of all the leading varieties of Fruits.

J. T. Lovett, *Little Silver, N. J.*—Illustrated Catalogue of Trees and Plants. Choice Small Fruits a specialty. This is a neat and tastefully gotten up pamphlet, full of useful hints to those contemplating to plant this autumn.

Ellwanger & Barry, Mount Hope Nurseries, *Rochester, N. Y.*—No. 1. Descriptive Catalogue of Fruits; price, 10 cents. No. 2. Descriptive and Illustrated Catalogue of Ornamental Trees, Shrubs, Hardy Herbaceous Plants, etc., with colored plate; price, 25 cents. No. 3. Catalogue of Strawberries and other Small Fruits; free. No. 4. Wholesale Catalogue, for the trade only; free. No. 5. Descriptive and Illustrated Catalogue of Roses; free. No. 6. Abridged Catalogue of select Fruits and ornamental Trees, Shrubs, Roses, etc; free. No. 7. Descriptive Catalogue of new and rare Roses; free. A set of these publications will be of much value to any one interested in their subject, as they contain not only price-lists, but descriptions of all the most valuable varieties, practical hints on transplanting, pruning, and general treatment of trees, shrubs, and plants.

ANSWERS TO CORRESPONDENTS.

Ipomœa leptophylla.—*Rev. Th. G., Marathon Co., Wis.*—The roots are perfectly hardy if growing in drained soil; but if the ground is heavy and wet, light mulching is advisable.

Hyacinthus candicans, *L. R. C., Yarmouthville, Me.*—In ordinary winters the bulbs are hardy here and near Boston, that is, in dry ground; nevertheless, it will be advisable to give them some mulch. The same may be said of Hardy Gladiolus and Tritomas. The Petunia branch has not come to hand.

Manure for Orchards, *Y., South Carolina.*—Without any information whatever about the condition of the soil and cultivation of an orchard, the answer to the inquiry about "the best manure for an orchard" must necessarily be somewhat on general principles. Where good stable manure can be had at two dollars a load, this will probably be found best and cheapest. It may be lightly plowed or harrowed under in autumn, or spread on the surface at any time during winter. Wood ashes are beneficial in almost all cases, but they should not be applied in connection with stable manure. Superphosphate of lime and ground bone will also be productive of good results.

Grasses for the South.—Several inquiries about the best grasses for the Southern States we cannot answer more authoritatively than by giving the opinion of *Mr. Wm. Saunders,* Superintendent of the government gardens and grounds, derived from personal observation last winter:

"One of the greatest wants in Florida is that of food for live stock. Northern grasses and clovers are of small value; they are not adapted to the climate. Lucerne, *Medicago sativa,* has the reputation of succeeding well in warm climates, and would doubtless flourish in the rich bottom lands when once they are fitted for culture. This being a perennial, noted for a propensity to send its roots deep into the soil, would be almost as permanent a plant as the dwarf Palmetto, and infinitely more useful. Lucerne is one of the most ancient of cultivated plants, and as a forage plant for dry, warm climates has always been held in high estimation.

"Among rapid-growing grasses none excel the Italian Rye Grass, *Lolium Italicum.* Seeds of this grass, sown in November, would produce a crop fit for cutting in April for hay. The winter season being also the dry season would be so far unfavorable to continued growth; but the want of rain could be met by a proper selection of soil. The worst selection would be high and dry fields; the best, a thoroughly drained swamp.

"But I look upon the Johnson Grass, *Sorghum halapense,* as having greater prospective value than either of the plants named. In Alabama, and in others of the Southern States, it is proving to be one of the best grasses for hay or for feeding in the green state that has so far been introduced to cultivation. This grass has long been known, but its persistent growth, and the difficulty of eradicating it from cultivated fields, caused it to be regarded as a nuisance. Its greatest fault is its greatest merit.

"A few days ago, in Polk County, in conversation with an Alabama farmer, I asked him what he found the most profitable crop to raise in that State. He promptly replied hay. To the further question as to what grasses he cultivated for this purpose, he answered the Johnson grass. He stated that he made three cuttings yearly, and from these his returns averaged five tons of hay from an acre. This is grown on good bottom land, and all the cultivation it receives is to plow it down once in two or three years; then give it a very thorough harrowing, and an increased growth ensues. A portion of the roots are thus destroyed, which prevents them from becoming too thickly matted, keeps up the fertility, and increases the growth. It would seem that a plant so well adapted to a warm, sunny climate will ultimately prove of great value all through this southern country."

Utah Plants.—We acknowledge the receipt of several beautifully preserved botanical specimens from *R. H. Hannah, Park City, Utah.*

The World Manufacturing Company, *New-York,* have been constant advertisers with us for some time, and we have never heard a single complaint from any reader that the company had not fulfilled what it agreed to. The "New American Dictionary," which the firm offers now, we consider the best book of the kind for the money we have ever seen, and the premiums offered to those getting up clubs are well worth attention.

The Harback Organina Co., *of Philadelphia,* offers on another page to send their Illustrated Catalogue of Musical and Optical Instruments free to all applicants. Of course, no sane person will expect to buy a grand piano for five and ten dollars, but those who have no expensive instruments nor knowledge and skill in their performance will find that these ingenious instruments go a great way in furnishing a substitute for their lack.

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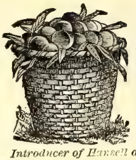

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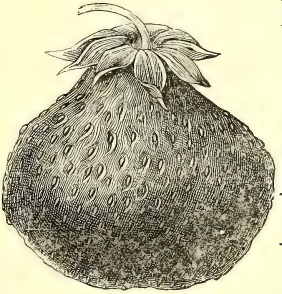

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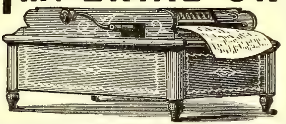

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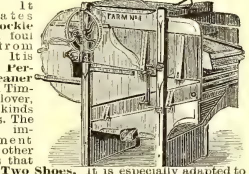

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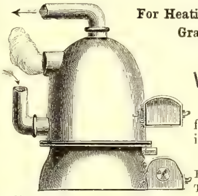

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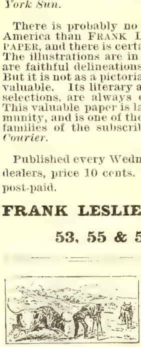

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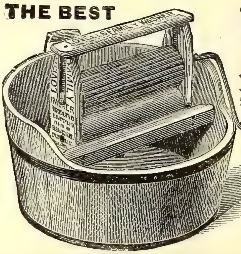

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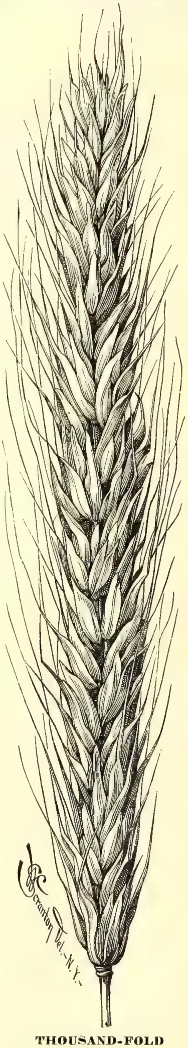

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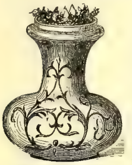

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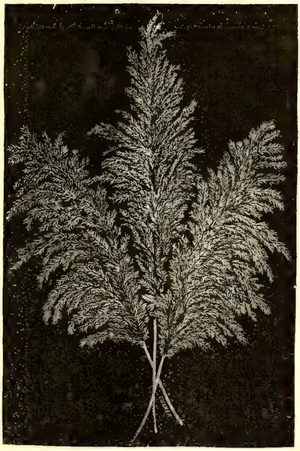

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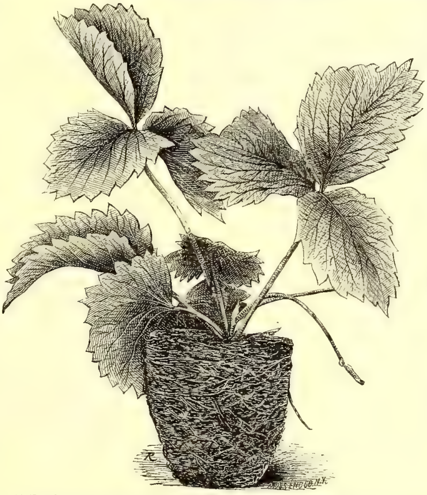

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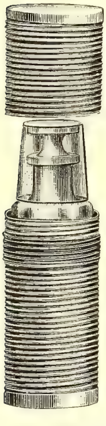

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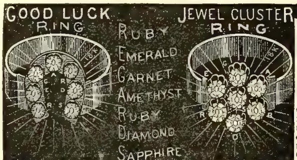

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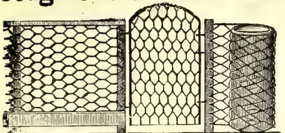

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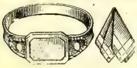

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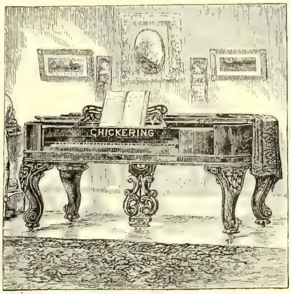

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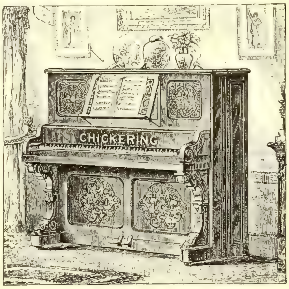

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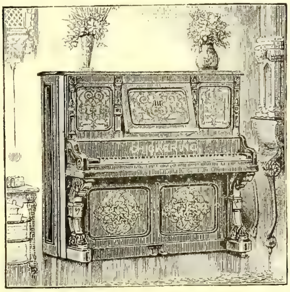

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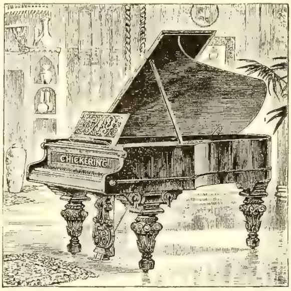

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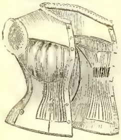

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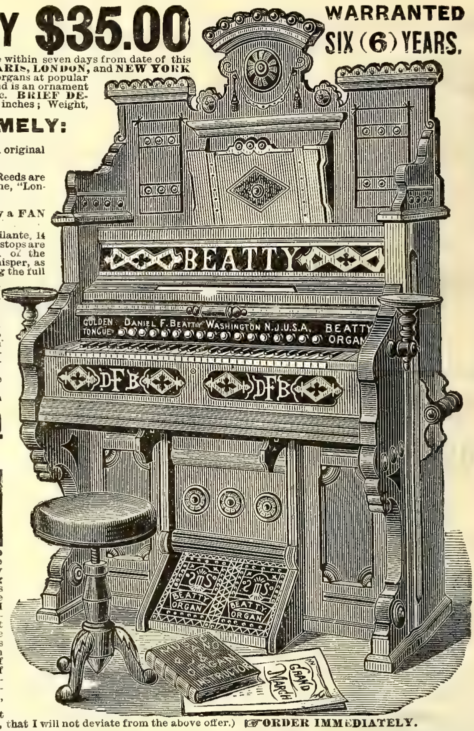

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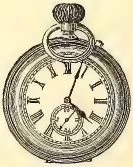

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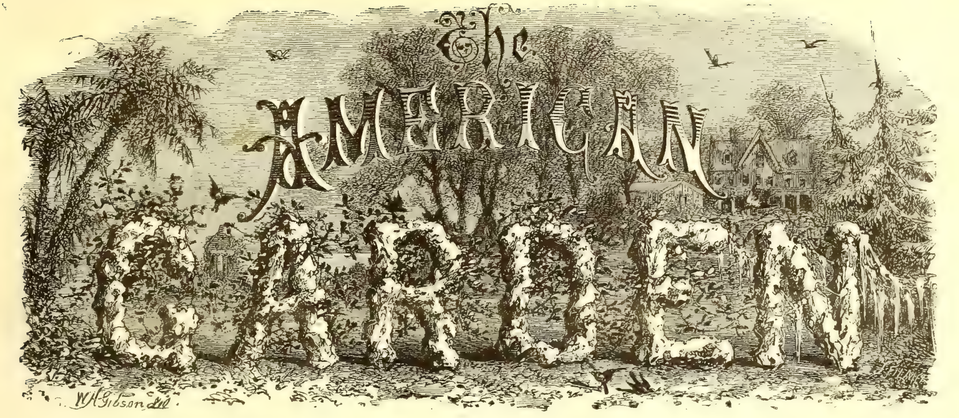

Vol. IV. NEW-YORK, NOVEMBER, 1883. No. 11.

The American Garden.

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OUR PREMIUM LIST FOR 1884.

We have a great many attractive things in store for subscribers to THE AMERICAN GARDEN, and hoped to have had our Premium List ready before this. We are hard at work on it, however, and expect to have it completed by the middle of the month. It will be sent to all present subscribers with the December number, or, if you want it earlier, we will mail it as soon as issued on application.

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FRIENDLY WORDS.

I like THE AMERICAN GARDEN so much that I want a copy for myself and one for my gardener, to whom it is a valuable guide.—*M. H. B., Clinton, Mass.*

I subscribe to five papers, but I prize THE AMERICAN GARDEN higher than any of them, for the practical ways it teaches.—*O. F. L., New Orleans, La.*

Have been much enlightened by THE AMERICAN GARDEN, and consider it as filling a long-felt want and a place not before occupied by any other paper.—*S J. J., Duchess Co., N. Y.*

I return many thanks for the beautiful premiums I have received with my AMERICAN GARDEN, which is the most attractive magazine of the many I have subscribed for.—*F. A. M., Loudon Co., Va.*

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The Vegetable Garden.

SEASONABLE HINTS.

With the forehanded gardener this is not a season of leisure; although the year's sowing and harvesting are nearly completed, he is well aware that next season's success depends largely upon the preparations made now.

Cold Frames are easily constructed and managed, and are not only useful for wintering plants intended for early spring planting, but may be made to add materially to the comfort of the household during the winter months. Cold frames differ from hot-beds merely in not having bottom heat, and the same frames may be used for either purposes. A frame for four sashes — that is, twelve feet long and six wide — is sufficiently large enough for a family garden.

Cabbage and *Cauliflower* plants raised from seed sown last month should, as soon as large enough, be transplanted to the frames. To produce best plants they should not be planted much closer together than about three inches, or so that a sash accommodates from three to four hundred plants, although market gardeners put often double this number under a sash. If the weather is still warm, as is not unfrequently the case at this season, the newly set plants should be shaded during midday for a few days, and watered when necessary. After they have taken root, little attention is required until severe cold sets in, when the sashes have to be put in place. On warm and sunny days, air has to be given freely, else the plants will become "drawn up" and worthless.

Lettuce plants set out in cold frames now will make good heads, fit for use in April, and if bottom heat is given they may be had in from two to three months. In fact, Lettuce may be grown all winter in hot-beds; but for market purposes forcing-houses have largely supplanted this mode of culture.

Celery.—With hardly any other crop have the ideas of cultivators changed so radically as with this, and methods which were formerly considered indispensable have now been entirely abandoned. So is the outdoor bleaching of Celery wanted for winter use losing favor with many. The plants are only "handled," and bleached while in their winter quarters. This "handling" consists simply in holding all the leaf-stalks of a plant compactly together with one hand, and with the other drawing and pressing soil around them, and after the entire row has been finished, to draw some more soil toward the stalks with a hoe, and pressing it firm enough to hold the leaves together. Soil in contact with the center or heart of the plants causes rust and decay.

Italian Onions are now extensively grown from seed in our Southern States. It has been found that in rich, moist, and well-prepared soil, Italian Onion-seed sowed in November produces as fine Onions as those grown from sets of American varieties planted at the same time. Second sowings are generally made in January and February.

Rubbish, vegetable and animal,— anything that will decay,—should now be raked up and added to the compost heap.

REMEDY AGAINST CABBAGE WORMS.

One of the greatest boons to gardening, says *Dr. E. L. Sturtevant*, in the *Station Bulletin*, would be the discovery of efficient methods for the destruction of insects, as well as remedies which are easily to be procured and of easy application. This, however, is a difficult matter to accomplish, and upon a review of the season's work we recognize but little absolute success.

The Cabbage worms have been abundant and destructive. We have warred against them with tobacco-water, saltpeter, alcohol, boracic acid, bisulphide of carbon, etc., in various combinations, but we finally settled upon an emulsion of kerosene oil and soap-suds as the remedy that, all things considered, was the most satisfactory. It appears that one ounce of common yellow, hard soap, one pint of kerosene oil, and one and one-half gallons of water, well mixed and stirred, and applied by means of a rose from a watering-pot, destroys all worms that become thoroughly wet with the mixture, and does not injure the plant. Care must, however, be taken to keep the ingredients thoroughly mixed in the pot, for if the oil is permitted to rise to the surface, so that it will pass out upon a few plants, it will prove fatal to the few, while the remainder will not receive enough of the oil to destroy the worms.

In this case the kerosene is the insecticide, the object of the soap being but to thicken the liquid, so as to retard, in a measure, the separation of the oil from the water. A larger proportion of soap makes the water so thick that it will not flow readily through the fine openings of the rose. A larger proportion of oil endangers the plant, while a smaller proportion is inefficient against the worms.

There is one caution, however, to be given: if repeated applications of the mixture are made upon the same plants, the more tender varieties will be destroyed or will be injured. We found on trial that, where one or two applications were made without injury to the plant, a large number of applications blighted the leaves, more or less, and five applications entirely destroyed the early varieties; while large-growing and late varieties seemed uninjured, even under severe dosing. The growing Cabbage furnishes so many hiding-places for worms that we cannot hope to destroy them all with a single application, however thoroughly it may be made. The perfect remedy should destroy the worms wherever it touches them, and should not injure the plant in the least under any number of applications.

STORING POTATOES.

Potatoes should be dug as soon as the vines are dead. When dug, they should be sorted and put in a cool place until stored away. I build a temporary floor in my lumber house some two or three feet from the ground, on which I spread the Potatoes thin enough that they will not become injured. In this way, the air can circulate free all around the Potatoes, which I think is essential to make them keep well before storing in winter quarters.

When the weather becomes cold, and there is danger of the Potatoes being chilled, they should be moved. Some growers store their Potatoes in cellars; others in pits on straw and with a thick layer of straw over them, covered with soil. But I find that they keep best in forest leaves, and where leaves can be had I would advise their use.

I store my Potatoes in the garden by making a good bed of leaves several inches thick. On this I place the Potatoes, and cover again with leaves, which should be entirely dry. Then I begin some fifteen or twenty inches from the pit and dig a trench around, throwing the soil on the heap, covering the leaves five or six inches with soil. As the weather grows colder, more soil is added. As soon as this is done, I build a shed over it by driving four forked stakes in the ground, one at each corner, placing poles in the forks, and covering all with old boards or long cornstalks. The roof should be as low as possible, just touching the top of the heap, and the slope should be toward the north. In this way I have wintered Potatoes for many years, and have always found them as good in spring as when dug.

SWEET POTATOES.

Climate makes considerable difference in the modes of storing Sweet Potatoes, and even in the same latitude they may be wintered successfully in various ways. Some wrap each tuber in a bit of newspaper, line a box or barrel with several thicknesses of paper, lay the Potatoes in carefully, cover with paper, and store away in a cellar. But the most common and most successful way of storing Sweet Potatoes in the latitude of Kentucky is to put them up in road dust.

In the fall, when the dust is very dry, fill as many boxes or barrels as are needed for storing with road dust, and put them away in a dry place until wanted for use. The Potatoes should be dug before frost, left exposed to the sun a day, and then stored away in a cool place. They should be spread very thin over a floor, so as not to heat or sweat. When cold weather sets in, they have to be moved to the cellar. Cover the bottom of the box or barrel with about three inches of dust; on this place a layer of Potatoes close together, but not so that they touch each other; cover with dust; then another layer of Potatoes and dust, and so on until the box is nearly full; then fill up with dust. If the Potatoes have been handled carefully, dug before frost, and the dust is thoroughly dry, put up in this way they will keep through the severest winters. I have tried every mode for preserving Sweet Potatoes I have heard of, but like this best of all.

T. D. BAIRD.

CARTING SAND ON GARDENS.

Twenty-four years ago, says John J. Thomas, we had three or four inches of sand carted on part of a garden, the soil of which was too clayey for the successful or convenient raising of garden vegetables. When this sand was well worked in, the whole became an excellent sandy loam, just the soil for agreeable working. The labor of drawing on the sand was considerable; but it was done in winter, when there was little else for the man and team to do, and the fine condition of the soil remains as good as at first, and probably will for a century to come, as the sand does not evaporate, wash away, or become consumed in the growth of plants, as with manure.

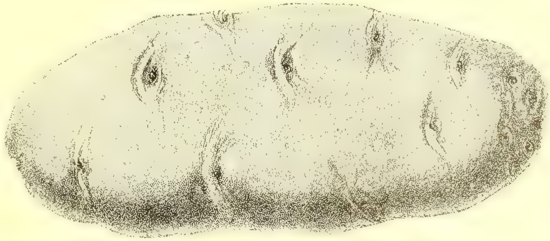
THE GREAT POTATO CENTER.

The counties of Rensselaer, Saratoga, and Washington, in the State of New-York, produced, according to the census of 1880, 4,490,825 bushels of Potatoes. The amount is greater now; and the surplus of this crop, beyond what may be required in these counties, is shipped to New-York City. Washington County produces more Potatoes than any other in the State, and they are also of as good quality as those produced anywhere. There is enough clay in the soil to furnish the necessary potash to make a good growth, and enough slate and gravel for covering the tubers sufficiently to grow to the highest perfection. The soil of the other counties is also well sprinkled with clay intermixed with sand, forming to a considerable extent a clay-loam, which produces the largest crops; other parts are a sand-loam, which yields Potatoes of the finest quality and perfect smoothness.

The surplus crop is mostly bought up in the autumn, being hauled directly from the field as fast as dug, or from temporary pits in the field, where the Potatoes are put in piles and covered with straw and a light sprinkle of earth. The growing and selling of Potatoes has been a leading business in these counties so long that a class of speculators has sprung up known as "Potato buyers." These are located at every prominent shipping point, and either buy on their own account or as agents for dealers in New-York. Where the hauling is not too far, buyers prefer to ship by water, and the Hudson River steam-boats are nightly laden, in the appropriate season, with cargoes of Potatoes. Canal boats are also loaded, and made store-houses and stores for the sale of Potatoes during the winter in the city, the decks being covered with straw to prevent freezing. Potatoes are sold by the bushel when delivered in bulk, or by the barrel or sack, rating two bushels and three pecks for a barrel.

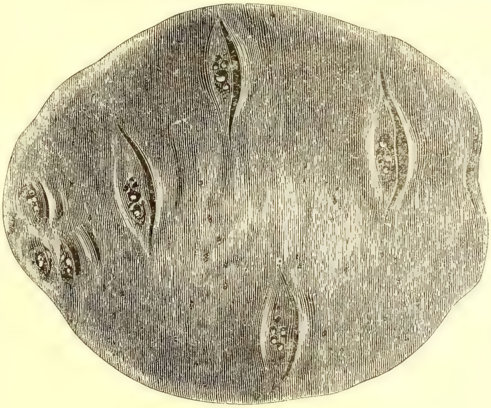
Potatoes are grown after Corn, or upon a clover or other light soil, and the best crops are usually had when they are planted early. Hence, an effort is made by most farmers to get them in as soon as the ground is fit to work, even before frosty weather is over. The seed is dropped by hand in hills which have been designated by a marker run both ways, and where grown largely, covered with a double plow, which turns two furrows inward. The custom practiced in New Jersey, of dropping a set in every third furrow, behind the plow, is not followed in this vicinity. The objection to it is that the Potatoes become covered too deep. Small Potatoes are generally planted, those which are below the market size, two being put into a hill. More Potatoes can be raised in drills, but the extra work required for keeping them clean is the reason why they are rarely grown in this way. A common corn cultivator is run between the rows both ways as soon as the vines appear, and as often as necessary afterward, the work of cultivating being finished with a double mold-board, or "shovel plow." Very little hand hoeing is done.

A number of machines have been invented for digging Potatoes, but none have so far proven to be a perfect success, although some of them do the work tolerably well. Many farmers run a "shovel plow" under the hills,—the team going astride the row,—and then follow with a harrow, to drag the Potatoes to the surface, from which they are picked by hand. The principal deficiency of all digging machines is that they cannot discriminate between clods, stones, and tubers; and the assorting, which is the principal part of the work, has to be done by hand in either case.



WHITE STAR POTATO.

The varieties chiefly grown here are the Early and Late Rose, but Beauty of Hebron and Burbank are superseding them rapidly. The latter, especially, is doing remarkably well in Washington County, on the slaty ground and clayey soils which abound in some of the towns. Snow Flake is also extensively grown, and in some sections the Peach-blow is still a favorite. Several new varieties are growing into favor, as they give promise of superior merit, and doubtless in a few years will take the place of the staple sorts of the present day. Among these, *White Star* is prominent. It is an exceedingly handsome Potato, somewhat resembling Burbank, but smoother and of better eating and keeping quality. As an early Potato, the *Triumph* has given more satisfactory results than any other new variety. Queen of the Valley, Early Vermont Champion, and others have also been tried by various growers.



TRIUMPH POTATO.

Col. F. D. Curtis.

CONCENTRATED FERTILIZERS.

The practical conclusions derived from the extensive experiments made at the Ohio Agricultural Station with various fertilizers are summed up by the Station Director, Prof. W. R. Lazenby, as follows:

1. Under certain conditions of soil the application of concentrated fertilizers may do more harm than good.

2. The success or failure of the use of fertilizers at the Station, in one particular instance, should not be conclusive with others. since it cannot be proved that the needs of their soil are precisely like those of the experimental grounds.

3. The results obtained should incite farmers to experiment carefully and observe closely. To a certain extent each farmer must "prove all things" for himself, and should then "hold fast to that which is good."

4. Untried and expensive fertilizers should be tested upon a small scale at first, and so applied that their effect or non-effect may be at once evident.

5. If, after a single fair and impartial trial, a certain fertilizer produces no good results, be not too swift to condemn or enter up judgment. If possible, vary the time and method of application, and try again. If the result be still void, it may reasonably be concluded that the fertilizer in question is not needed just there; that some peculiarity of soil or climate renders its use ineffective at that point, though under other conditions it may be the best fertilizer known.

INTRODUCTION OF TOMATOES.

Tomatoes, as a vegetable, were first grown in western New York in 1825. They were introduced by Mr. Tousey, who brought Tomato-seed from Virginia, which he planted at Rochester. When his Tomatoes were ready for the table he invited several gentlemen to dine with him. At first the Tomato was found palatable to none of the party. This surprised and annoyed our host, who ate them with great gusto; but subsequently, when Mr. Tousey sent fully ripe Tomatoes to his friends, our tastes changed, and before the season was over we became very fond of them. In 1830, after I removed to Albany, I inquired for Tomatoes, but was told at the market that they were not produced by the vegetable gardeners, and had never been sold in that market. I induced the market gardener of whom I purchased vegetables to send to New-York for Tomatoes. He did so, but found during that season but two customers, namely, the late Julius Rhoades and myself. —*From the "Autobiography" of Thurlow Weed.*

The Fruit Garden.

SEASONABLE HINTS.

Protecting Strawberries.—The Strawberry being indigenous to our country, growing wild as far north as Newfoundland and close up to the arctic region, it will suggest itself at once that a plant of this character does not require protection against cold, and that the losses which occur under cultivation must result from other causes than a low degree of temperature. This fact becomes still more apparent in many instances in which plants that have survived the severest winters were destroyed by unfavorable weather in March.

In its natural state the Strawberry is generally found growing in deep, rich, and moist ground, yet free from standing water, and these are just the conditions of soil which we endeavor to provide for its most successful cultivation. But it is never or rarely found in bare ground; it abounds in rich meadows where withered blades of grass protect it during winter, or in moderately open woods among decaying vegetable matter, and near enough to trees to derive the benefit of their falling leaves.

This light covering, although it furnishes but little protection against cold, provides sufficient shelter to ward off the frequent and sudden freezings and thawings which occur in early spring, and prove often more disastrous than the severest cold of midwinter. While under cultivation, plants will heave or become thrown out of the ground entirely under certain variations of temperature, it will be found that in their wild state the soil around them remains firmly frozen and does not thaw generally before warm winds and spring rains melt all the frost with one general thaw. To imitate these conditions as closely as possible in our gardens and fields is the object of winter mulching.

Salt-hay is used almost exclusively by those within easy reach of it, as it is light, elastic, and, above all, free from weed seeds.

Straw, Wheat or Oat, and especially Rye makes a very good mulch, and would leave nothing to be desired if it were not for the obnoxious seeds which are almost always contained in it.

Leaves would, at first sight, seem to be the most appropriate material, yet as generally applied there is this objection to their use, that they are apt to become too firmly packed by the weight of snow, to the detriment of the plants underneath them. In a small way, this difficulty can be prevented, however, by placing evergreen branches or long cornstalks loosely over them.

Evergreen branches, when they can be obtained in sufficient quantities, furnish perhaps the best protection. At least, we had better results from their use than from anything else. They should be placed with their concave side down.

Whatever material is used, the great points to be observed are:

1. Not to put the mulch on too thick; two inches of straw or leaves are sufficient in all cases, except, perhaps, on very wet soils.

2. Not to cover the plants too early. When the ground remains frozen night and day, about the last week in November, in this latitude, is early enough for mulching.

FORCING STRAWBERRIES.

The most important point in forcing Strawberries is to commence with strong, healthy plants. It is useless to expect success with puny, sickly plants. Only the strongest runners should be used. These are layered in pots as early in the season as possible, in the manner described in previous numbers of the AMERICAN GARDEN.

When the small pots have become well filled with roots, the plants have to be shifted into five-inch pots, or two plants may be set in a six-inch pot. The soil for potting should consist of about equal parts of good loam, rotted cow-manure, and leaf-mold. The pots should be plunged to the rim in the ground, in a sunny situation, and thoroughly watered whenever necessary.

After a few autumn frosts, the pots should be removed to a cold frame and sunk in leaf-mold, covering the rim about two inches, and leaving only the crowns of the plants uncovered. This prevents the pots from becoming broken by the action of the frost. In severe cold weather, cover with sashes and shutters until wanted for forcing.

The middle of January is a favorable season to commence forcing proper. The shutters are then taken off in day-time, and during night the sashes are well covered with straw mats or salt-hay. In about a week the pots will be thawed out sufficiently that they can be taken out. They are then placed in a house with a temperature of 60° in day-time and 40° during night, until blossoms appear, when the temperature should be increased to 70° in day-time and 50° at night. Plenty of air has to be given, and when the flowers have fully expanded, pass over them, in the middle of the day, with a camel's-hair brush, to distribute the pollen, and thereby promote the better fertilization and setting of fruit. When it is desirable to hasten the ripening of the berries, the temperature should be raised to 60° at night.

Care must be taken not to crowd the plants when in blossom; they should not be placed so near together as to touch each other. As soon as the first blossoms show themselves, the plants should be watered with thin liquid manure about three times a week, up to the period when the fruit commences to color, when only cistern water should be applied. With proper care, success is almost certain. A plant exhibited last winter at the Horticultural Society bore forty-one berries.

There are comparatively few varieties suitable for forcing. I have always had best success with Seth Boyden; but Sharpless, Triomphe de Gand, President Wilder, and others are also adapted for this purpose.

JOSEPH DUNBAR.

SET TREES IN THE FALL.

The majority of our fruit trees lose their foliage in autumn and remain leafless through the winter season. The leaves which are to unfold with the growing spring-time are very small at the close of the year, and packed away in well protected buds. Winter is a period of comparative rest to all outdoor plants in our climate. The leaf is the laboratory in which those chemical changes take place that raise the inorganic compounds up to the plane of organic substance. During the season of growth the crude sap, taken from the soil by the fibrous roots, is transformed in the leaves, under the influence of sunlight, into starch, oil, sugar, etc., and these afterward pass to the growing parts and there furnish the material out of which the plant is built. The atmosphere furnishes some of the material used in the leaf factory; in fact, a large part of the solid substance is made up of carbon (charcoal), which is taken up from the surrounding air by the leaves.

The above imperfect summary of some of the leading facts in vegetable physiology are given as an introduction to the question: Shall we transplant trees in autumn? From the intimate relation of the growing plant to the soil by means of its young roots and to the atmosphere through the tender foliage, it is to be expected that a change of a tree from one place to another would result in injury. This reasoning is abundantly substantiated by experience. Trees suffer least in transplanting when they are least disturbed in their vital functions by the operations; and, therefore, the time to set an orchard or establish a fruit garden is either in the autumn after the season of growth is closed, or in spring, before the vital forces have become active. The winter, with its intense cold, frozen ground, depth of snow, etc., cuts the season of transplanting in two. Sometimes this division is made close to the beginning; at other times near the middle and frequently near the end of the inactive portion of the year. The winter may be, so to speak, prolonged at both ends, so that transplanting in the fall is almost impossible, and in the spring must be done in a short space of time.

It can be seen by the above that an unqualified "yes" or "no" cannot well be given to the question in hand. Fall planting can be done whenever there is sufficient time for the work after the season of growth closes, and before the ground becomes frozen. The soil during this period, usually the last of October and the early part of November, is still warm with the heat of the summer sun and usually contains the proper amount of moisture. The soil is in every way most favorable for the setting of trees, and the weather for doing this work is the best which the whole year affords.

But how is it with the trees? They are through growing, and the leaves are either fallen or ready to be removed from the branches. There is no danger of the buds unfolding for months to come. The tree is in every way ready to be moved, and besides, as a general thing, there is a plenty of time to do the work well; a point which cannot be claimed for the spring with its hurry of pressing work.

If the setting is done in the fall, it should not be until the growth is completed. This is known by the formation of a distinct line between the leaf and the stem. Leaves often remain hanging to the branches long after this work is finished. When satisfied that the work is finished, the leaves should be removed from the tree while it is being transplanted. They expose an evaporating surface, and this means an undue draft upon the roots for moisture. The roots must adjust themselves to their new situation and need all their energies extended in this direction. The fall-set roots will get sooner ready for an early start in the spring.

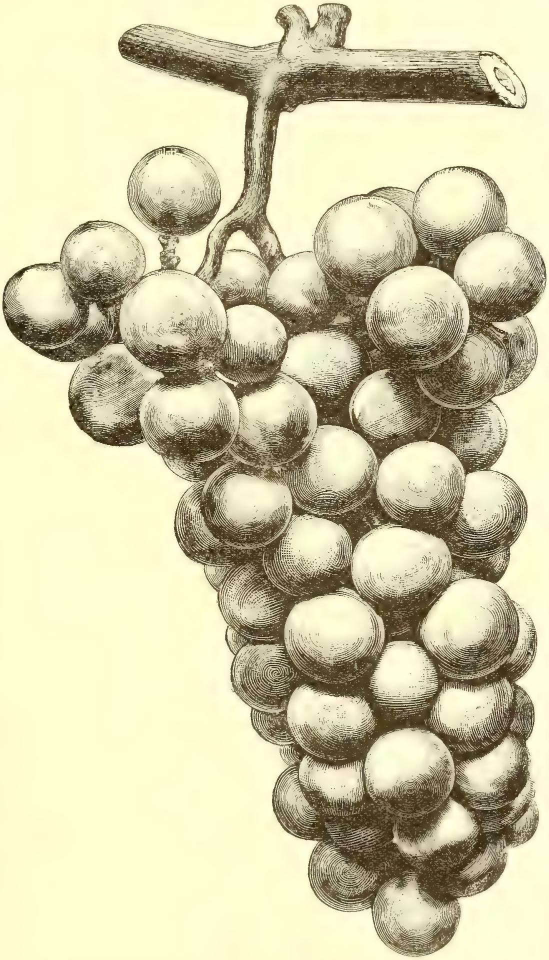
DR. B. D. HALSTED.

THE FRANCIS B. HAYES GRAPE.

Under this name, which the public will probably shorten to "Hayes" Grape, we received from *Messrs. John B. Moore & Sons, Concord, Mass.*, a few medium-sized, moderately compact bunches of Grapes. The berries are of good medium size, globular, greenish-white, changing to amber-yellow when fully ripe; skin very firm; flesh tender, juicy, very sweet, and of but very slight foxiness—less, we think, than in other purely native white varieties.

It ripens, as Mr. Moore states, from seven to ten days before Concord, has healthy, thick foliage free from disease, is a very vigorous grower, hardy, and a prolific bearer. It is one of the seedlings raised simultaneously with "Moore's Early," and is imbued with the same hardy habit of that excellent early black Grape.

This variety has been exhibited for several years before the Massachusetts Horticultural Sceiety, where it was highly commended and awarded a First Class Certificate of Merit. Being of purely native origin, and of thoroughly proved hardiness, it promises to become a valuable Grape for cultivation in northern latitudes. Vines will not be offered for sale before autumn, 1884.



THE FRANCIS B. HAYES GRAPE.

SAVE THE FRUIT.

Taking the country as a whole, there is a great scarcity of fruit this year, which is especially the case with Apples. Excepting in a few favored localities, the Apple crop is unusually light—so much so that we cannot be too economical in the disposition of the harvest.

Even were there an excess, nothing should be wasted; for there are millions of people in our cities and villages, and in newer sections of the country where fruit trees have not yet been planted to any extent, who will gladly pay good prices for fruit of all kinds, green and prepared.

We can do much to eke out the supply of winter fruit by carefully preparing such fall varieties as will not keep fresh through the winter. Millions of bushels of Crab-apples, and the inferior grades of other varieties, annually go to waste—which amount, if carefully and economically handled, would go far toward supplying the country with fruit until another crop is harvested.

Clean, well-cored, and carefully dried Apples are always wholesome and palatable. If desired to sell, they will bring double the price that slovenly prepared ones will. A few cents' worth of time and care in preparing a bushel will not infrequently add a dollar or more to its marketable value. Apples should be dried as quickly as is consistent with thorough work. To expedite drying, slice them very thin, and where only a supply for the family is to be prepared these thin slices are best dried upon plates or earthenware dishes. They will not then taste of the wood, as is the case when spread upon boards and frames.

Apple-leather, when neatly prepared, is a most excellent and convenient article for the housekeeper. It is made by stewing the fruit as if for sauce, then spreading thinly upon plates, and drying in the hot sun, or in an oven kept at so low a temperature as to preclude all possibility of scorching. It is always ready for use by simply soaking. Peaches and other fruits may be prepared in the same manner.

Apples are usually spread out on floors or in bins after being gathered, and left there to "sweat out," until cold weather calls for more thorough protection. Much can be lost or saved in these few weeks, as, with the utmost care even, some of them will get bruised, causing decay. If left in the pile a month or six weeks without sorting, many of the good ones will become affected, thus causing a useless loss.

Apples should therefore be sorted over once or twice during the fall, taking out and drying all those that show signs of decay, and wiping the others with cloths, moving them, at the same time, to another bin or piece of floor that is perfectly dry. After once "sweating out," they will keep best when carefully packed in barrels. Even then they should be handled over once or twice during the winter.

Apples are not at all difficult to keep, unless you are too fond of them, or very careless in providing a place and in handling them. There are more lost by storing in damp, warm, and poorly ventilated cellars than from any other cause. If the attic of a house could be made frost-proof it would be an excellent place for storing Apples. Wherever they are stored, they should have good ventilation, for they throw off a great deal of moisture, with which the atmosphere becomes charged. For sanitary reasons alone, if not for any others, a cellar under the house in which roots and fruits are kept should always have facilities for thorough ventilation.

A little economical management this fall will save much of our fruit, and go far toward preventing a scarcity of that very necessary article.

W. D. BOYNTON.

PLUM TREES IN POULTRY YARDS.

The experiences at the New-York Agricultural Station furnish additional and convincing proof that the effect of poultry about Plum trees is very beneficial, by hindering the work of the curculio. All the Plum trees are, with a single exception, in the poultry yard. Of one hundred specimens of fruit taken at random on different trees in the yard, but three were found stung by insects; while in the same number on the tree outside, thirty-seven had been stung. Nearly all the trees within the poultry yard produced a good crop of fine Plums, while the outside one bore but a few specimens.

CANNED FRUITS.

The canned fruit product of California has largely increased within the last decade. The product of 1875 aggregated in value about $500,000. In 1878 it had reached $1,250,000. In 1880 $1,500,000, and in 1882 the product is set down with a value equal to $2,600,000.

The Flower Garden.

COMPENSATION.

Written for THE AMERICAN GARDEN.

The turfy slope is crisp with heat
  Beside the poor man's door,
The path, worn smooth by childish feet
  Winds in and out before;
The autumn evening waxes late—
He slowly swings the creaking gate,
With hasty strides o'ertakes its close,—
His day's rewards, his night's repose.

He marks, with shrewd, approving eye,
  His heaps of unhusked Maize;
Like lanterns in the curious dusk
  His yellow Pumpkins blaze;
And, prettiest in the rustic show,
Some clumps of rosy Asters grow,
Like hardy, happy children, cheer
The weary night, the waning year.

His blundering fingers lift the latch;
  A moment's pause I see,—
Then stumbling o'er the narrow sill,
  He enters silently;
There's something lends the action grace,
For, stamped upon her withered face,
A new contentment, strangely deep,
His mother rocks his child to sleep.

You rarely hear that rugged speech
  The charm of life confess,
That hardened hand is fit for toil,
  Reluctant to caress:
The signs of pleasure, sweet and shy
They lighten in the still blue eye,
And up the sun-bronzed cheek take flight
In one red flash of shamed delight.

To this in many a burdened hour
  His secret thoughts return;
For this he's lived laborious days,
  Such frugal joys to earn;
And yet, if flowers will thrive by toil,
With scanty suns and sterile soil,
Thank God for home and homely cheer,
We'll pay the price, nor count it dear.

ELAINE GOODALE.

SEASONABLE HINTS.

Spring-flowering bulbs of all kinds, if not already in the ground, should now be planted without delay, so that they may form strong root-growth before winter sets in. It is the amount and vigor of this growth upon which success mainly depends, whether the bulbs are grown in the open ground or in pots.

To those who have not enjoyed the possession of a bulb-bed before, we would say, no matter what the condition of your soil is, —unless it is a swamp,—by all means plant some Hyacinths, Tulips, Crocus, Narcissus, and as many more kinds as you feel inclined, and you will be well repaid next spring. There is nothing that can give so rich and cheering a return as spring-flowering bulbs.

Hyacinths, Tulips, and *Narcissus* should be planted four inches deep and six inches apart; *Crocus, Scillas,* and similar small bulbs, two to three inches deep and four inches apart. *After* the ground freezes hard, —*not before,*—cover with leaves three to four inches, held down with evergreen branches or corn-stalks. In spring, examine the ground occasionally, and as soon as the pointed shoots appear above ground remove the covering, and wait for the results; and when gorgeous Tulips excite the admiration of visitors, and rich trusses of Hyacinths in pure white and all imaginable shades of red, blue, and yellow, spread delicious fragrance through the garden and house, let us know how you like your bulb-bed.

ALPINE PLANTS AND ROCK-WORK.

As European travel becomes more frequent from year to year, and the number of those who climb the Rigi and Faulhorn, who traverse Wengernalp, and feast their eyes on the indescribably grand and beautiful scenery of Switzerland, many become acquainted with its charming alpine flora, and naturally would transplant some of these lovely companions of the glaciers and eternal snows to their far-off gardens, if such were possible. In many botanical gardens of Europe, extensive collections of alpine plants are cultivated, and thrive there nearly as well as in their mountain homes. But the American climate is about as different from that of the alpine regions of Switzerland as can well be imagined, and to succeed here with these plants requires special preparation and attention. *Messrs. Woolson & Co.* have made a specialty of the culture of alpine and other hardy plants, and the following practical directions given by them may be relied upon by those who intend to give these interesting plants a trial:

"There are many plants found growing wild only in alpine regions; a portion of these will succeed in ordinary soil in the garden border, another portion can only be satisfactorily grown by imitating, as far as may be, their natural locations; this has led to the rock-work, or rock-garden. The popular notion of a rock-work is very far from the correct one. A structure arising abruptly from a lawn, built up with stones and mortar in such a manner as to contain pockets, and these filled with any plants that can be coaxed or forced to grow there, without reference to their natural habitats, may be a rock-*work*, but is not a rock-garden. Neither is a promiscuous heap of stones with the interstices filled with earth a rock-garden.

The reasons why alpine plants flourish better on a properly constructed rockery than elsewhere are, that while the plant itself is exposed to full sun, its very long and fine roots can run down in the crevices, where the soil is cool, and while continually moist is also constantly well drained. Unless a rock-garden secures these, the chances are that the plants will do better in an ordinary border than on any rockery that fails to provide them.

"In building a rock-garden, let there be an abundance of pockets and crevices of different sizes, filled with leaf-mold if possible, but see that each one has a soil-connection quite down to the earth. When this is done, the roots will receive moisture from below by capillary attraction; if it is neglected, the plants will be as badly off as if in flower-pots, and will probably fail. This essential being secured in a rock-garden, it should be made to appear as much like nature as possible, and should be situated in some place where natural rocks might properly be left, and never upon the lawn or in the ornamental part of the grounds.

"While alpine plants, when well established, are in nature exposed to the full action of the sun and winds, when planted in the rockery they should be sheltered at first until their roots become well established.

"ALPINE PLANTS IN COMMON GARDENS.

"Those who have neither the locality nor the materials for a proper rock-garden may cultivate most of the alpine and rock plants with fair success by imitating the above conditions, as far as may be, in the border. Select a spot that is naturally well drained, and excavate the earth to the depth of twenty-four inches; put in six inches of small stones, broken bricks, etc., to make sure of good drainage; fill up with leaf-mold or peaty soil, with sufficient sand to keep it open. When the plants are set, *mulch them* with stones, *i. e.*, have a lot of small stones from the size of a filbert up to the bulk of half a hen's egg,—all the better if flattish rather than round,—and put these around the plants to the depth of two inches or more. This covering of stones, while it allows the rain to enter the soil, checks evaporation, and keeps the soil moist, cool, and loose."

AN INTERESTING NATIVE PLANT.

THE ZAUSCHNERIA.

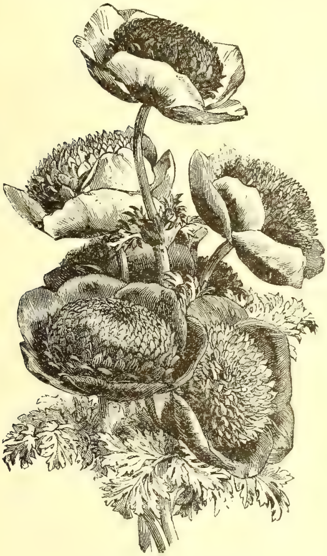
This somewhat harsh name has been bestowed upon a handsome little fuchsia-like plant of the far West, which is well worthy of a trial in our gardens. The genus includes but the single species, *Z. Californica*, which is found throughout southern and central California, and eastward to New Mexico and Utah. The plant is herbaceous, or slightly woody at the base, with a strong, hard, perennial root. The stems — about a foot long —are decumbent and ascending, and grow so thickly as to quite cover the ground. The stems and branches are terminated by loose racemes of scarlet flowers. The latter are about an inch long, the parts in fours,—tetramerous, as the botanists say,— with the calyx and corolla colored alike. The style and stamens, as in the Fuchsia, are exserted to some distance beyond the petals, and the anthers are loosely attached by the middle, presenting that pendulous appearance which is so prettily seen in the anthers of the Lily, and which gives to the latter flower its chief grace. The leaves are about an inch long, lance-shaped, slightly toothed, of a deep green, and more or less hairy. Altogether, the habit of the plant, the disposition of the flowers, the highly colored calyx, and the exsert style and stamens, render it strikingly like a Fuchsia, while it has a charm possessed by no variety of the latter — a brilliant scarlet color.

In its native mountains its specific attractions are heightened by the surroundings. Where the cañon broadens out into a little garden-like expansion, it loves to take possession of the gravelly bottoms on either side of the stream, where it grows to the exclusion of almost everything else. The surrounding cliffs, covered with vines and ferns, form a rich setting for the garden beneath.

In the flower garden it would doubtless admit of great improvement, as even at home its appearance varies greatly with soil and altitude. As it is accustomed in the Sierra Madre to severe cold and very sudden and frequent changes, it would probably prove nearly, if not quite, hardy in this latitude. It should be grown in a light, rich, well-drained soil, with an abundance of water, especially about the time of flowering. During winter it should be well covered with mulch, or be placed in a frame.

H. H. RUSHBY.

ANEMONES AND RANUNCULUS.



DOUBLE FRENCH ANEMONE.

These plants, though so seldom grown successfully in this country, are well worth the attention which their culture requires. There are many species, inhabitants of our gardens, woods, and fields; but those to which our present article especially applies are the tuberous *Ranunculus Asiaticus* and *Anemone coronaria*, and *hortensis*, from which species the many varieties catalogued by bulb growers, and which are often included in collections of Dutch bulbs, are derived. The tubers of the Anemone are dark, flattish, ill-shapen; those of the Ranunculus are a number of little prongs united at a common crown.

Any common, light, good soil is suitable for the Anemone, a wet, stiff soil rots the roots. The Ranunculus, however, likes a stiffer soil and is very impatient of drought, although if planted in a common bulb bed the roots sometimes grow and give flowers; yet these plants cannot be considered hardy, and to grow them satisfactorily a special bed must be made for them and requisite protection given. If the natural soil is not rich loam, it should be removed to the depth of at least eighteen inches. Fill in with rich, light soil at least six inches; rotted sod from some old pasture is the best; then fill up the bed with a mixture of the same soil and well decomposed cow droppings. Then raise the bed about four inches with fine light, rich soil. Good drainage is essential. In this bed plant the tubers from four to six inches apart, according to their size, and about two inches deep, pressing the soil around them, in October or early November.

When the ground begins to freeze, cover the bed with a thick coat of leaves or of strawy manure, so as to thoroughly keep out the frost. It is better, however, to make a rough frame, fill in with leaves and cover with boards or glass. The only objection is that field mice sometimes make such a frame their winter quarters and destroy the tubers; they must either be kept out or poisoned.

Early in spring remove the frame or uncover the bed, and the plants will soon appear. Push the earth loosely around them and water freely if there should be a season of drought. The plants will soon show bloom and should then be protected from the sun (which fades the rich colors) by an awning.

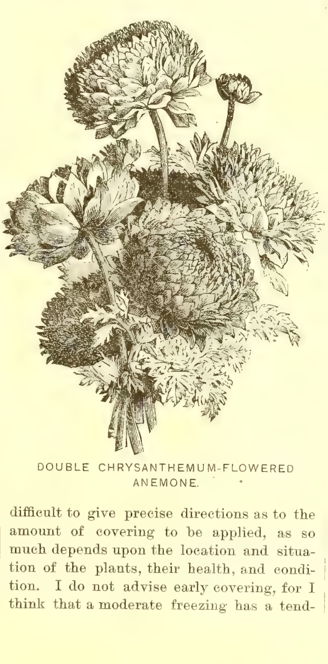
When the flowers have faded and the foliage turns yellow, take up the tubers and keep them in a cool place until the return of the planting season. The roots may be kept over winter and planted in the spring, as they possess great vitality; but autumn planting is preferable. If planted in pots they can be kept in a frame and brought into bloom during the winter, but this culture is not as satisfactory.

The species and varieties are single and double; the colors are very rich white, scarlet, yellow, blue, black, spotted,—in fact, there is hardly any shade which cannot be found. A bed of these flowers will give more satisfaction than one can suppose, for no words can give an idea of the beauty and brilliancy of the blossoms. The culture is not difficult, and the wonder is that we so seldom see Anemones and Ranunculus.

E. S. Rand, Jr.

WINTER TREATMENT OF ROSES.

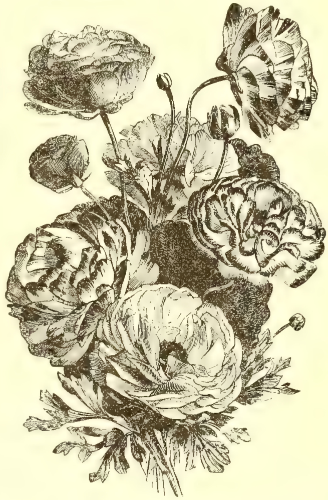
In the latitude of New-York City, Roses should not be covered, or given their winter protection before the first week in December. In this respect the amateur often errs. In his anxiety to protect his pet plants, he very often covers them too soon, and if the season is mild the shoots are smothered, and in consequence decay. In the spring the same error occurs again; he uncovers them early in March, when he should not do so before the first week in April.



DOUBLE CHRYSANTHEMUM-FLOWERED ANEMONE.

In regard to protecting Roses, it is rather difficult to give precise directions as to the amount of covering to be applied, as so much depends upon the location and situation of the plants, their health, and condition. I do not advise early covering, for I think that a moderate freezing has a tendency to help the plant to fully mature its wood, thus rendering it more capable of surviving the winter.

For protecting the Hybrid Perpetuals (which, by the way, are the hardiest class of Roses), I know of nothing better than the branches of cedar or other evergreens, placed rather thickly over the entire bed.



DOUBLE FRENCH RANUNCULUS.

The Everblooming Roses, Teas, Bourbons, Bengals, are unfortunately more tender, and in consequence require more protection. For this class I find it an excellent plan to cover over the entire bed to the depth of six or eight inches with forest leaves. The leaves can be kept in place by placing evergreen or other branches over them. I prefer evergreen branches, when they can be obtained, as they make the place more bright and cheerful looking, during our dreary winter months.

For protecting Roses, some use rough stable manure, but I do not advise its use; it often ferments, and thus destroys the plants; besides, it retains so much water that it packs heavily, thus inducing rot and decay. Standard and large specimens of Roses can be protected by covering them with straw, tying it neatly around, and leaving a slight opening at the top. Evergreen branches may also be used for this purpose, and are in some respects preferable to straw.

Chas. E. Parnell.

A NEW METHOD OF COLORING FLOWERS.

A Mr. Nesbit, of England, is said to have discovered a process by which cut flowers can be colored by the absorption of dyes through the stems. A bouquet of Lilies tinted in this manner with delicate pink and blue was carried by the Prince of Wales at a recent social entertainment, where it attracted considerable attention. It is said that the dies do not in the least affect the perfume or freshness of the flowers; but not all the flowers respond equally to this treatment, and some of the compound colors become separated by the process; purple especially divides into its compound colors.

Lawn and Landscape.

THE JAPANESE ASTILBE.

(Astilbe Japonica.)

A hardy, herbaceous plant, comparatively but little known to amateurs, although often highly recommended by professionals, is the Japanese Astilbe, or Spiræa of our catalogues. One fond of flowers will seldom fail at first sight to fall in love with this beautiful foreigner, which apparently takes so kindly to our changeful climate, and withstands the coldest winters with impunity. Crowning a delicate red stem, branching toward the apex, we find a crowded cluster of miniature white blossoms, which in their exquisite delicacy may well be compared with freshly fallen snow. We may be somewhat enthusiastic in its praises, but its beauty must be seen to be sufficiently appreciated.

Like all hardy herbaceous plants, it will take care of itself after once being planted. Procure a root in the autumn, and place it in any convenient situation in the border. As it grows over two feet in height, it is obviously not a "bedding plant," and for that matter it has not even the characteristic of being showy in the open ground. The tall, leafless flower stalk, and the general airiness of the whole, make it of little value for display. Its attractiveness lies wholly within the blossom itself, where the chief beauty of the plant is concentrated. Therefore, plant it in some convenient situation, but where it will not displace plants more suitable for border ornamentation. It is especially well adapted for planting among groups of small shrubbery in lawns.

Any soil suits it, although a rich and dry one is preferable. Spade up the earth, and plant the root two or three inches below the surface, pressing the soil about it firmly. Before the hole is entirely filled, give it a good soaking with water, and finish up by smoothing over with a rake. In spring, as soon as the first leaves begin to appear so as to show the location of the plant, it is a good plan to stir the soil around it. This admits the air and water more freely to the roots, and promotes a healthy and rapid growth. By and by, the tall flower stalks will appear, and, shooting upward, will be crowned in June or July with its beautiful blossoms. After these have appeared, no bouquet culled from your garden plots will be complete without some sprays of Astilbe; or, in other words, they will be indispensable while they last.

The Japanese Astilbe is grown largely by florists for cut flowers in winter, and its forcing qualities and ease of culture make it peculiarly adapted for the house and window garden. For this purpose, the clumps of roots are planted in five or six inch pots, in sandy loam and leaf-mold. After potting, they should be thoroughly watered and buried in a bed of sand or coal ashes, and treated as is customary with forcing bulbs. When wanted for forcing, they are placed gradually into heat, and, by bringing a few pots to the house every two or three weeks, a continuous succession of these pretty flowers may be enjoyed during the entire winter.

There is also a variety with variegated foliage, green and yellow, otherwise similar to the green-leaved kind. H. GILLETTE.

MAKING A HILL.

To those born and reared in mountainous regions, the monotony of the western plains soon becomes wearisome, and they long for the sight of the dear hills. A correspondent of the *Country Gentleman* relates how a friend of his, tired of the unbroken plain, determined to make a hill of trees. This is the way he made it:

In the center of a circular land, about two hundred feet in diameter, he set a Cottonwood tree, and twenty feet away a circle of six others. The center tree was much larger and thriftier than the circle. Twenty feet distant was another circle, this one of Willows, set fifteen feet apart. Then followed Catalpa, Ailanthus, Osage Orange, and last, Holly. These outer circles were closer, and the trees being of smaller growth were set closer.

By cultivation and manuring he endeavored to incite the central trees to a more luxuriant growth than the outer ones, and has succeeded in a remarkable degree. The result is a solid green hill of foliage that soon will be a hundred feet high in the center, and slopes down to about ten feet at the base.

He is now building another hill on a modification of this principle. This is to be an evergreen hill, and for the place of honor he has a White Pine, surrounded by Spruces, and the varieties graded as to size to the edge. To secure a greater hill appearance, he allows five years to elapse between the planting of the different circles, so that when the last circle is set the central tree will be twenty-five years old.

EPHEMERAL PLANTING.

The tendency in all branches of ornamental gardening, says *A. S. Fuller*, in the *N. Y. Weekly Sun*, has been for many years immediate effect, without the least regard for permanency, or how grounds may look after the lapse of a few months or years. This is not only seen in the gaudy display of bedding plants in city and suburban gardens, but even in our great parks, where at the very outset trees were so crowded to make an immediate show that in a very few years the natural beauty of all were destroyed in their struggle for existence. Our much talked of and costly Central Park has been ruined by this very common error of close planting for immediate effect. Everything for to-day, taking no heed for the morrow, appears to have been the ruling idea in the planting of our great public parks, as it is in a majority of private gardens.

This ephemeral style of gardening has no doubt been greatly stimulated through the introduction of the hundreds of different species and varieties of ornamental foliage plants which are now so popular; and while these are certainly valuable acquisitions in the way of materials for making our gardens look gay in summer, there is something about them that looks flashy and gaudy — a bright bit of coloring, and nothing more. But where the hardy perennials, biennials, and even annuals, are cultivated, there is a continuous change all through the season, every day bringing out something new in the way of color,— a kind of natural progression from the first Anemone in spring until the last one is cut off by the frosts of autumn.

The Window Garden

AND GREENHOUSE.

COOL ORCHIDS.

The nearly general opinion that all Orchids require houses built for their special culture is rapidly undergoing a change, as it is well known that there are a good many of the finest species in cultivation which can be successfully grown in a house used for a general collection of greenhouse plants. Even some kinds which were formerly considered stove Orchids, requiring a high temperature, can be grown and brought to a high state of perfection in the temperature of a house used for growing Carnations, Stevias, and similar plants. *Dendrobium nobile*, *Wardianum*, *Pierardi*, and *densiflorum*, a large number of *Cypripediums*, *Phajus*, *Cœlogynes*, *Cattleyas*, *Calanthes*, *Lycastes*, *Laelias*, *Oncidiums*, *Stanhopeas*, *Zygopetalums*, and *Epidendrums*,— among which are some of the finest genera in cultivation,— may be grown in ordinary greenhouses together with a general collection of plants.

There are two classes of Orchids,— those which grow in earth, and are called Terrestrial Orchids, and those which grow on trees, rocks, etc., known as Epiphytal Orchids. Most Orchids require a long season of rest, especially the epiphytal; also, such terrestrial genera as *Calanthe*. All Orchids which form pseudo-bulbs must be thoroughly matured before success can be attained. Evergreen kinds which do not form pseudo-bulbs require to be kept moist all the time, although they need larger quantities of water during their season of growth than when at rest.

The great essentials in Orchid growing are fresh soil, clean pots, steady temperature, and freeness from insects. Dendrobiums do about equally well in pots, baskets, or on blocks. The erect-growing kinds, such as *D. densiflorum*, are probably best adapted for pot culture; while those of pendulous habit, such as *D. Wardianum*, do best in baskets. Good peat and sphagnum are necessary for their growth, and, if growing in pots, plenty of drainage must be given. All the Dendrobiums need abundance of water when growing, but sparingly when at rest.

Cypripediums are perhaps the most useful class of Orchids for cutting flowers. Most kinds are of easy culture, and seldom fail to produce plenty of blossoms, and some of the species at a season when flowers generally are in good demand — during the holidays. They require good, open, porous soil, to give their roots plenty of room. Do not allow them to get too dry at any time, but be careful not to let water remain at the axil of the leaves, as it is apt to cause rot. Look out for white scale, one of the most inveterate enemies to this class of plants.

Phajus grandifolius, one of the commonest Orchids in general culture, is also very pretty. To amateurs just beginning the cultivation of Orchids, I would say not to try too many kinds at first; for although I consider none of those named difficult to grow in a cool house, it is a better way to learn the habits of a few of the genera before undertaking the cultivation of a large collection.

M. MILTON.

THE SCARBOROUGH LILY.

(Vallota purpurea.)

This brilliant summer-flowering bulb is nearly allied to the genus Amaryllis, from which it differs mainly in that its leaves are evergreen, keeping in a growing condition all the time, and should therefore not be dried off during winter.

The large bright-scarlet flowers appear from July to November, and immediately after blooming the bulbs should be potted. A mixture of equal parts of loam, leaf-mold, and sand is most suitable for them, and with good drainage there is little danger of giving them too much water, except during the few winter months, when they require not more than to keep them from wilting. The plant needs but little heat, but should have plenty of light during its growing season. The bulbs, when once established, should not be disturbed oftener than the roots become too crowded in the pots, when a shifting of the entire ball into larger pots is preferable to a separation of the bulbs.

THE BROWALLIA.

We have very few blue flowers which bloom in winter. Blue is a color not often met with among plants which can be used in the house; therefore, when we do happen upon one, we prize it, especially if it is a free bloomer, and is easily managed. Such a flower is the Browallia. It is a bright, clear blue, with a white eye. The flowers are small, but they are freely produced, and the effect is very pleasing in the window, if one has a good plant.

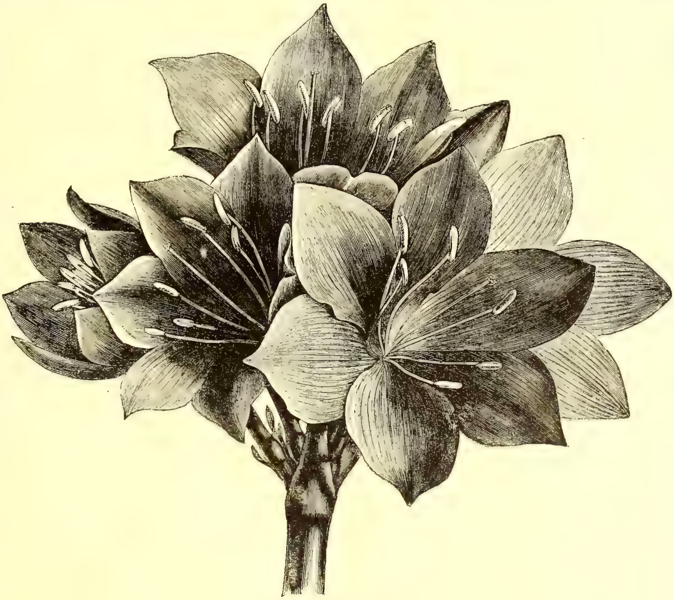
The Browallia is seen oftener in the garden than in the house. Like the Lobelias, which it resembles somewhat in color and flower, it is not likely to attract as much attention there as it does when grown in the house, because it is a modest flower, and not at all self-asserting, like the Zinnia, the Phlox, or the Petunia. To grow good plants for the house, I prefer to sow seeds in pots, rather than take plants out of the garden borders. Plants intended for use in pots always do better when raised and kept in pots, I think.

When the plants are an inch or two high, put them in small pots and keep them in a sunny place, giving only enough water to keep them from drying up. Also give plenty of fresh air, and syringe often, to keep down the red spider, which will quite likely attack them if kept in too dry an atmosphere. If the plant shows an inclination to straggle, pinch it back, and force it to become bushy and compact by a judicious system of pinching in. If this is done, you will soon have a plant eighteen inches or two feet high, well branched and symmetrical in shape, which will become covered with flowers. It is very fine for using among other flowers to which blue is a contrasting color. It mixes well with Eupatoriums, or white and yellow flowers, and is desirable for use in bouquets.

E. E. Rexford.

HOW TO GROW MIGNONETTE FOR WINTER FLOWERING.

Mignonette is a native of Egypt, and is usually grown as an annual, as it blooms and goes to seed in a few months, and is not hardy enough to live in a cold, frosty climate; but with a little care a regular succession of plants can be obtained, and this deliciously fragrant flower may be cultivated as a pot plant, and made to bloom all winter.



VALLOTA PURPUREA.

The seeds should be sown in small pots, in which the plants will flower, as the Mignonette is a tap-rooted plant, and will not transplant so easily as plants that are fibrous rooted. Yet by taking up the plants at night-fall, after they have put forth five or six leaves, and by wetting the roots well before disturbing them, and then transplanting them with a little sand about the root, I have been successful in transplanting them. Still, I prefer to sow in pots and pull up the plants that are not needed, as only one or two plants should grow in a small pot.

The best soil in which to grow Mignonette consists of three parts loam, one part thoroughly decayed manure, one part leaf-mold, or peaty soil, and one part sand, but it will grow in any common garden loam. Scatter five or six seeds over the soil in each pot, and press them lightly down with the finger. Water them, and put the pots in the shade or, better still, in a plant frame, with a little bottom heat, and shade them till the sprouts appear. Then let them have plenty of sun, so as to grow stocky, and not become wire-drawn. As soon as the leaves are well sprouted, thin out the plants, leaving only two in a small pot; but if the pot is large you can plant more seeds in it, and leave six or eight plants to grow. But my fancy is for small pots of flowers for the window garden. Large pots are better fitted for the conservatory or greenhouse.

Stir the surface of the soil, with a large hair-pin, every few days, so that it will not become caked and prevent the air from reaching the roots. Mignonette does not require much water, as the plants are liable to damp off if the soil is too wet, but it must not be kept dust dry. If the sun is very hot at noon-day, the small plants may be scorched, and it is well to shade them with paper to keep the leaves a bright green. When they are four or five inches high, tie them to slender sticks three or four inches taller than the plants, to keep them from growing straggling. If the shoots are pinched out when the plants are three or four inches tall, they will make more flowering shoots and form handsomer plants.

When the buds appear a little weak, manure water once a week will make them bloom in larger clusters.

Miles's Hybrid Mignonette and *Parsons's White* are very fine varieties for the window garden. Mignonette can be sown in wooden boxes and kept on the window sills in the dining-room or kitchen for winter blooming.

It may also be sown in large pots, and kept under glass all winter, by preparing a frame in a sheltered location where it will have all the sunshine. Put a good supply of manure, mixed with straw from the horse stable, at the bottom, and over this lay rough coal ashes, with six inches or more of fine coal ashes on top. Sink the pots in the ashes, and have the sashes about ten or eleven inches above the level of the pots. When the seeds sprout, give all the air on mild days, so as to keep the plants strong and stocky. Do not water on damp, dark days, as too much moisture will injure them. When frosts come, and snow falls, keep the glass covered with mats or carpets and loose hay. Bank up the outside of the frame with strawy manure, and when it storms, cover the whole glass with boards. If Mignonette is sown every month, from March to November, a constant succession of fine flowers can be obtained all the year around.

Daisy Eyebright.

Foreign Gardening.

THE GARDENS OF VANCOUVER ISLAND.

I do not know when I have been more agreeably surprised than by a visit to the town of Victoria, which is on the south-east point of Vancouver's Island and between latitude 48° and 49° in the North Pacific Ocean. We have been for some days sailing on the Pacific and along the Straits of San Juan de Fuca, the heavily snow-capped mountains of the Olympic making the air so chilly that those who kept in the open air at all had to do so with overcoats, or, if ladies, in warm wraps or furs. All at once we came to the mouth of Puget Sound, opposite to which is Victoria, and all was at once pleasant. Summer weather and everything as lovely and beautiful as the prettiest poet might imagine. The harbor of Victoria is, however, small and shallow, and, as a consequence, our heavy vessel had to lie for six or eight hours a mile and a half outside, waiting for the tide to rise, and this gave me the opportunity to do some interesting botanizing among the rocks along the coast.

The town of Victoria, which we reached in the afternoon, is an indescribably pretty place. It is built on a high rocky bluff, and has a park called Beacon Hill, from its use in signaling in those olden times when Indians were troublesome. Though the mountain tops, some fifty miles away, are perpetually white with snow, except when the morning and evening sun lights them up in purple and gold, the air in the town is warm (though without sultriness), owing to the long day's sun — sixteen hours now — warming the sheltered spots where the high mountain ridges keep off the arctic winds.

The people are fond of flowers, and almost every cottage was embowered in vines, and seemed ready to break down with their load of blossoms. In my early life in England, I have memories of whole buildings completely covered from roof to the ground with sweet Roses and gratefully scented Honeysuckles, but I have often found that early memories become magnified. The distance of time lends an enchantment to the early view. I had come to suspect that the Roses may not have been quite so strong, nor the Honeysuckles quite so sweet, as these early memories record them. But here they were, even excelling these impressions and giving a new echo to the voices of youth. The tale was true. The wild English Honeysuckles, running by the cottage door, rambling under the eaves to almost gable end, dropping in festoons between the windows, and only by the aid of art permitting a glimpse of the within, and giving out thousands — yes, thousands of bunches of their deliciously scented purple, and white, and yellow flowers. And the Roses, and the Pyracantha, and the Evergreen Ivy, and the scores of other things which, even in Philadelphia, cannot be grown without much trouble, here they may be seen climbing in wonderful luxuriance, or making bushes, in some cases, nearly as large as the habitations they adorned.

Roses, yes! How they would have charmed the hearts of an Ellwanger or a Parsons! How the enormous "Jacks," by the thousands, would have made the purses tremble of those florists who with us only get them to perfection by the lavish expenditure of cash and by the sweat of their brows! Even the standard or tree Roses are grown to an enormous extent, and make the same beautiful ornaments in yards that they make in the Old World. And the indigenous Rose — *Rosa Cinnamomea* or Cinnamon Rose — grows in a state which I may almost call grandeur. I have it growing in my Germantown garden, but about three feet is all the height it cares to grow for me. Here you may see bushes — nay, masses — scores of feet in diameter, ten feet or more high, and bearing thousands of their remarkably sweet, rosy flowers, giving a fragrance to the air for a long distance away. In many instances the Sweet Brier and Eglantine of the Old World had become naturalized, and got into the fraternal embraces of their native brother; but those were also growing with equal luxuriance, showing that it is the climate which does it all.

When the time shall come that the whole country shall be brought under improved speed in traveling connections, and the United States shall be but a few days' reach from this now distant land, this ought to be the great Rose center of the American continent. Not only the Rose, but numberless plants of the Old World have escaped from cultivation, and are making their way through the world, on their own account, most gloriously. The English Daisy, the "gowan fine" which Burns tells us of in "Auld Lang Syne," is getting out everywhere among the grass, and the Furze and the Broom and many others abound in the woods and along the road-sides.

In Mr. Johnston's beautiful nurseries I saw the Deodar, and many other half-hardy evergreens with us, growing magnificently, and I have never in any part of the world — not even in its native home at Calaveras, Mariposa, and other places — seen the great Mammoth Sequoia so evidently satisfied with this world as in Mr. Johnston's grounds. These nursery grounds are not very large, but have more variety than I have seen in any nursery since I left home. Apples, Pears, Plums, and particularly Cherries, make a remarkably vigorous and healthy growth, and just now the Cherries are breaking down with their weight of fruit. But here, as elsewhere, good culture has to tell its own story. Apple orchards are set out, then they are left to struggle for food with the grass or other vegetation, and soon get yellow, hide-bound and moss-clotted; and then the owners tell me "the Apple is one of the fruits which will not do in Victoria"; but when you come to places where the Apple has all the ground to itself, or having other things growing with it, is still manured for both, then you will see that the Apple will do as well as elsewhere.

And what a country for the cooler-loving fruits and vegetables? The common Currant grows five feet high, and bears fruit as large as Cherry or Versailles. And such Cabbage, Lettuce, Peas, etc., few if any of our readers ever saw.

I almost felt that I could remain here; but when I remember the Grapes and the Watermelons and Tomatoes, and scores of other things which we have and they may envy, I shall feel free to return as happy as when I left home.— *Thomas Meehan, in Gardener's Monthly.*

Horticultural Societies.

NEW-YORK HORTICULTURAL SOCIETY.

The October exhibition, held on the 2d of the month, was in the general character of its exhibits similar to that of the previous meeting. Gladiolus and Dahlias covered the largest part of the tables, only the order of awards was reversed, C. L. Allen & Co. taking all the first prizes for Gladiolus, Hallock & Thorpe the second.

The premium collection of twelve named Gladiolus contained: *Adanson, John Adams, Crystal Palace, John Gilbert, Martha Washington, Alfonso, La Candeur, Ceres, Emerson, Marguerite, Adelaide Neilson, Eugene Scribe.* Allen's new seedling, *Margaret Newton*, attracted deserved attention. It is of a peculiar delicate rosy-salmon, lightly striped with deep carmine, flowers very large, spike unusually large and full.

Several very good collections of Dahlias were on exhibition, especially of single varieties.

The prize for the best twelve named Dahlias was awarded to Hallock & Thorpe for *Rory O'More, Lady Percy, James Walton, Chas. Lingard, Ovid, Chris. Ridley, Prince of Denmark, Florence Stark, Magician, Acme of Perfection, Lady M. Watts, Prince Bismarck.*

John Henderson received the first prize for the best collection of named Roses, twelve buds of each. The collection comprised some twenty-five varieties, nearly all of unusual excellence. Among them was the new variety, *Mad. Cousin*, a beautiful flower, of a peculiar violet-rose, tinged with yellow.

Of Petunias and Geraniums several very good displays were noticeable. An especially attractive feature was a huge rustic basket, in which three separate exhibits of Orchids were tastefully arranged by Mrs. M. J. Morgan's gardener. The interstices were filled with moss and Ferns, giving the whole a natural and graceful appearance.

In the fruit department we noticed, among others, several magnificent bunches of Black Hamburg Grapes from Mr. Charles Butler's graperies. Three huge heads of the new Seafoam Cauliflower, exhibited by B. K. Bliss & Sons, attracted marked attention, and formed the most prominent feature in the vegetable department.

The business meetings are now held in one of the large basement rooms, directly under the hall, which has been conveniently fitted up for the purpose. This is a decided improvement over the former custom of holding the meetings and exhibitions in the same room. At this meeting it was resolved to give more prominence to special exhibitions continuing two days and evenings. This is a move in the right direction, which cannot fail to bear good results.

The next exhibition will be held on the 7th and 8th of November, and will be a special Chrysanthemum show. Very liberal premiums are offered to exhibitors, and unusual efforts are being made by the officers as well as the members of the society to make this exhibition the largest and best of the kind ever held in New-York. Intending exhibitors may obtain the schedule of prizes by addressing Secretary J. Y. Murkland, 12 Cortlandt street, New-York.

Household Pets.

TEACHING BIRDS.

Few birds that are esteemed as pets in a household, says the New-York *Times*, sing their natural song. If they did they wouldn't be so highly prized. The canary, even, is trained to his song, and the young bird is kept, by the careful breeder, in the company of only the best singers. So is the bullfinch, the starling, the blackbird and others whose songs make them so valuable to dealers. So the song-birds are never taught to improve their songs in this country.

Dealers say it is because we haven't men on this side of the Atlantic who will enter into competition with the trainers in Germany. The Americanized foreigners find that this business doesn't pay. So even those who have been in the business in the Old World drop it when they come here. Yet, in a small way, these trainers pursue their vocation here, to some extent, rather for recreation than remuneration. These efforts, however, are directed mainly to the training of speaking birds, like the parrot and magpie, rather than the songsters.

There lives on Roosevelt street an Alsatian who has accomplished a wonder in the training of a common field robin. The bird was kept by him in a dark room with a small music-box set to play only one tune, "My Mary Ann," made popular by Harrigan and Hart in one of their farces. A dozen times a day or more the music-box ground out this one tune.

The owner of the bird is a good whistler and something of a musician. At such odd hours as he could get from his work he went to the room where the bird was confined and whistled the tune. Occasionally he would take his violin to the room and play "My Mary Ann."

The robin heard no music but this, and as a consequence in a couple of months began to sing this song. When he got so he could whistle it from beginning to end his improvement ceased. And now he sings at intervals this plaintive air in rivalry with the music-box, and much to the delight of its owner.

The imitative faculty thus developed has clung to the bird, who is now constantly picking up new notes, and has perfected itself in a portion of one of the airs from "Fatinitza." It has also learned to speak three French phrases, and has acquired the habit of calling out in a shrill whistle, "Jules," the name of its owner's son. Altogether it is a famous bird, and its owner will not part with it for any amount of money.

The method pursued by this Alsatian is that pursued by all trainers in Europe who make the education of song-birds a specialty. The bullfinch is their favorite student, because it learns the most readily, can acquire two or three tunes, and is a favorite in the market. These trainers, generally peasants, will fill a darkened room with cages of bullfinches, and teach them by the use of what is known as a bird-organ to whistle some particular tune.

The bird-organ is a baby hand-organ and plays only the one song the teacher desires his scholars to learn. This is ground out to them a dozen times daily, and in a month or two the pupils are graduated, and apparently revel in their education, abandoning their natural song for the artificial one. The violin or music-box is often substituted for the bird-organ, but one of the three is always an accompaniment to the education of a song-bird.

The young canary takes its schooling from its male parent, and young birds while in training have no other education than being confined in a room with a number of the best singers.

Rural Life.

BUYING FROM HEAD-QUARTERS.

Why will not the fruit-growers, to say nothing of the small dairy farmers, put themselves in direct communication with their customers by letting it be known that they are ready to fill small orders? In laying by supplies for winter, intelligent housekeepers would be glad to order from growers direct to suit themselves. For instance, every one wants during the season two or three hundred pounds of good table Grapes, which cannot be bought here except at fancy prices, and, what is worse, are flat and poor when bought. Then one wants some really good Quinces, a bushel or two, for marmalade, and a bushel of wild Grapes, which, for fragrance and musky flavor, are incomparable for jellies, to say nothing of winter Apples and Pears. I know they are little over half the cost of these extravagant Boston markets (the dearest in the country), only twelve miles from here, and for seasons we have ordered everything possible from a friend in the interior of New-York State, to the great saving of purse, and certainly of having the table well supplied. But friends die or move away, and there is no compass to direct one where else to send. We really think of freighting oats, apples, and butter from Iowa; for, spite of the distance, it pays as mere economy.

Why wont farmers and fruit-growers insert a line once in awhile in the papers, to say that they are ready to supply housekeepers' orders in the fall? There may be some inconveniences in getting a new plan started, but they can all be got the better of if people go to work properly. The Deerfoot farm, near Worcester, has advertised in Boston daily papers for several years, and made a good thing of it, though Deerfoot produce brings fancy prices.

When living near New-York, we used to take little trips off on the Erie or the Northern New Jersey Railroad in the fall, as far as Sufferns and Closter, or above, and hunt up our pears, butter, and honey from the orchards and neat private dairies. One is much better served in such a way, and there was a flavor about things of the blue October skies and hazy Sleepy Hollow region, the deep, late pastures and sunny autumn woods, that gave our housekeeping a zest. Poultry dealers advertise small orders, a trio of fowls or dozen of eggs; why wont it pay fruit-growers to do the same? If the farmer's business is crowded, a young son or daughter might take the order department in special charge, and get better prices for part of the produce than are obtained from wholesale dealers.

East Dedham.

Miscellaneous.

DRESSED FOR MEETING.

See my pretty ruffled dress!
See my tienty locket!
'Spects I'm most a lady now,
'Cause I've got a pocket.
These down here are my new shoes
That I walks my feet in;
Course it wouldn't do to wear
Copper toes to meetin'.

See my picture hankerfust,
Sunday days I has it;
I can blow my nose in church
Most like papa does it.
Papa's hitchin' Jack and Gray,
An' they keep a-prancin';
Horses don't wear Sunday clothes—
They don't know they're dancin'.

Grandpa used to go with us,
Now he's gone to heaven;
Guess he's at the angel church,
Up where God is livin'.
I don't take no cake with me—
Never think of eatin'.
Don't you want a nice, clean kiss
'Fore we go to meetin'?

A. H. Poe.

POISONED ARROWS.

At a recent session of the Société d'Anthropologie, an interesting communication was received from M. W. J. Hoffman, regarding the methods employed by Indians to poison their arrow-points. The Comanches simply pierce the green shell of the Spanish Bayonet, or *Yucca angustifolia*, with the points. The Apaches bruise up the heads of rattlesnakes with fragments of deer's liver, allow the mass to become putrid, then dip the arrow-points and allow them to dry slowly. The Chinouns (Moquis of Arizona) irritate a rattlesnake until he bites himself, and then dip the point and a portion of the wood into the animal. A wound with one of these arrows generally proves fatal in three or four days, and its action is much more rapid if the stomach of the wounded person is empty at the time the injury is received. Another poison is obtained by irritating bees, shaking the hive, and then killing them when in this state with small branches bunched together. The insects are crushed up in a mass with mortar and pestle, and the arrow-points are dipped in the magma. It is probable that the active substance in this case consists in the formic acid contained in the bodies of the bees. This preparation does not cause death, but induces long continued sickness. Another very active but not fatal poison is prepared from red ants. It produces pain in the pharynx, considerable swelling of the part injured, and sometimes delirium. The patient remains feeble for a month.—*Medical and Surgical Reporter.*

THE CRANBERRY CROP.

The statistics of the American Cranberry Growers' Association show that the crop of 1882 was 307,282 bushels, of which there were marketed in New-York 115,458 bushels, against 126,677 bushels the previous years. For the three seasons last past, the prices have fallen off in the spring from those of the preceding December. Growers may expect good prices this year, as the light Apple crop will no doubt create a better demand for Cranberries.

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DECEMBER 1st.

BOOKS AND PAMPHLETS RECEIVED.

Kansas State Board of Agriculture. Monthly crop report, containing acreage and estimated yield by counties of Corn, statistics relating to Potatoes, Sorghum, Fruit, Bees, Artificial Forests, and the Meteorological Record of the month.

Pease's Feathered World, a monthly journal devoted to Cage Birds, Aquaria, and Pet Stock in general, published in the interest of bird keepers, etc., by *Geo. C. Pease, Reading, Pa.* This is an ably managed paper, well calculated to meet the wants of those for whom it is intended.

Wm. C. Barry.—New and noteworthy Trees, Shrubs and Conifers. A paper read before the American Association of Nurserymen, Florists, and Seedsmen, at the annual meeting at St. Louis, by *Mr. Wm. C. Barry.* This is a valuable contribution to the knowledge of many of the best and most desirable novelties; of special service to collectors, as the descriptions, and statements about hardiness are all from the personal observation and experience of the author. The remarks about the newer Maples and Conifers, to some of which we shall draw more attention in a future number, are of special value.

Edwin Alden & Bro's "American Newspaper Catalogue" is a large handsome volume which contains a complete list of all Newspapers and Periodicals published in the United States and Canada. The chief aim in the getting up of the work appears to have been to facilitate reference to localities and papers. One is thus enabled to see at a glance on the same line, place of publication, name of paper, number of pages, length of advertising columns, frequency of issue, class or denomination, when established, and circulation; also — a very material item — whether coöperative or not. To advertisers and those in search of statistical information about journalism, this is a most valuable volume.

Prospectus of the Correspondence University. This is an association of experienced instructors, who have been carefully selected, not only for their knowledge of the subjects assigned to them, but for their skill and ability in teaching. Its purpose is to enable students to receive at home systematic instruction, at a moderate expense, in all subjects which can be taught by means of correspondence; whether the studies be collegiate, graduate, or professional, or preparatory for the higher institutions of learning.

A public circular will shortly be issued, containing the names of the instructors already engaged, together with a definite statement of the subjects for which provision has been made thus far. Applications for instruction should be made to the secretary, Lucien A. Wait, Ithaca, N. Y.

Horses: Their Feed and Their Feet. A manual of Horse Hygiene, by *C. E. Page, M. D.* 150 pp. 12mo, paper, 50 cents; extra cloth, 75 cents. New-York, Fowler & Wells, publishers, 753 Broadway. The work discusses very fully the best means of putting horses in "condition" and keeping them so. The relation of feed to work, the best kinds of feed, when and how to feed with the best results, including the care of work horses and road horses. The causes of the various diseases to which he is subject, with methods of treatment, are given. In part second, Sir George W. Cox discusses the common practice of shoeing from a point of view of the objector, and makes a good argument; and Colonel M. C. Weld, who is well known authority, follows with a second argument in the same line, insisting with much force that shoeing is unnatural and injurious. There is also an illustrated chapter on the Signs of Character and the Training of Horses.

CATALOGUES RECEIVED.

George S. Josselyn, *Fredonia, N. Y.*—Descriptive Catalogue and Price List of American Grape Vines, Small Fruit Plants, Trees, etc.; also circular, descriptive of the famous Fay's Prolific Currant.

Woods, Beach & Co., *New Brighton, Pa.*—Circular of the new *Alternanthera aurea nana,* a dwarf plant of compact habit and bright yellow color, for which the introducers claim that it can be relied upon to keep its color under the most trying circumstances.

A. Blanc, *Philadelphia.*—Catalogue of Engravings of which Electrotypes are for sale. This is a large quarto volume, containing nearly 3000 engravings of fruits, vegetables, flowers, etc., comprising all the leading varieties in cultivation and many novelties. The illustrations are selected with special reference to the wants of nurserymen, seedsmen, and florists.

ANSWERS TO CORRESPONDENTS.

Lavender is easily grown, and requires not more care than Sage. A rich, rather stiff soil suits both.

Christmas Roses need more protection here than in England. They are best grown in frames but will do outdoors in sheltered situations, covered with leaves and evergreen branches.

Floral Inquiries.— *S. P., Norfolk Co., Mass.*—*Wallflowers* need an abundance of water only while growing vigorously. They delight in a moist atmosphere, and do not reach perfection in dry summers, however much water may be given to the roots.

Lemon Verbenas, and similar plants that have been touched by frost, should be cut back severely, removing nearly all of this season's growth, then lifted from the ground, potted, or put in a box if too large, and placed in a cool cellar, not necessarily a dark one. Water should be given sparingly during winter, enough only to keep the soil from becoming dust dry.

Hot Water Apparatus for heating greenhouses, etc.— We have frequent inquiries about the best heating apparatus for plant houses, and, although we cannot single out any one as superior to all others, we can recommend those advertised by *Thos. W. Weathered, 46 Marion street, New-York,* as first class and as giving general satisfaction.

Coal Ashes.—*W. B., Keokuk, Iowa.*—Both hard and soft coal ashes are valuable on heavy soils. They should be sifted through a coarse sieve, as the large clinkers do no good, and are objectionable rather. Most coal ashes, according to the proportion of wood used in connection with the coal, contain also a considerable quantity of potash, acting therefore not only mechanically to improve the soil, but as fertilizers also.

Hardy Azaleas.—*M. T. G., Yarmouth, N. S.*—The so-called "Hardy Azaleas" will not stand the winters of Nova Scotia without protection. After the ground remains frozen, some strawy horse-manure should be spread around the bushes, and evergreen branches or long straw tied loosely around the plants. This should not be done however before the end of this or beginning of next month.

Hardy Gladiolus.—*Several Readers.*—None of the Gladiolus varieties are entirely hardy in the Northern States, but the so-called "Hardy" kinds will winter outdoors very well when planted deep in dry, well drained ground, and when covered with leaves or straw or evergreen branches during winter. We have frequently wintered small bulbs of tender kinds even, outdoors, by covering them thickly with leaves and cornstalks.

Mossy Lawns.— *Mrs. T. A., Pittsfield, Mass.*—The most frequent cause of moss in lawns is that the soil is too wet. A poor and wet soil is destructive to the growth of lawn grasses, while it encourages the inroads of moss. When moss occurs only here and there in isolated depressions, the ground may be lightly spaded or hoed, some new soil carted on, so as to raise the spot slightly, and grass seed sown, giving at the same time a dressing of superphosphate of lime. Wood ashes have also a beneficial effect. Yet, radical and permanent relief can only be produced by drainage. A single drain running through the lowest or wettest part of the ground is often sufficient to drain a large lawn

Superb Cauliflowers.—We acknowledge the receipt of several remarkably fine heads of Cauliflower from *Mr. J. M. Lupton,* Mattituck, Long Island. They were of the Early Algiers and Sea Foam varieties, and were, by all who saw them on our exhibition table, declared the finest they had ever seen.

The Little Detective.—For a reliable and cheap family scale, we do not know of anything more satisfactory than the scales manufactured by the Chicago Scale Company, and advertised on another page. They are also very convenient for office and store use and fully worth the price they are sold for.

The Centennial Fanning Mill, manufactured by *S. Freeman & Sons,* Racine, Wis., is a perfect separator and cleaner of all kinds of grains and seeds. It is simple in its construction and so well made in all parts that with fair usage it will easily last a life-time. We have used one for many years and find it as good now as the first day.

A $115.00 Organ for $49.75.—This was the unparalleled offer made by *Hon. Daniel F. Beatty,* the great organ manufacturer, in our paper a short time since. He has instructed us to re-insert it and thus give those who failed to accept former offer another opportunity. We think this organ needs no further recommendation. See advertisement in this issue.

Egg Food.—The patent, together with the entire business of this excellent and deservedly famous article, formerly known as "Allen's Egg Food," has since four years been owned by *Mr. F. C. Sturtevant,* who continued the trade under the old firm name. But hereafter the business will be conducted under the name of the sole proprietor and manufacturer, *F. C. Sturtevant,* as will be seen by advertisment on another page.

Growth of a Large Industry.—Such has been the growth of the business of *Wm. Knabe & Co.,* piano manufacturers, that even their immense factories have not been large enough for them. To accommodate this increasing business, they have leased a large and convenient building just opposite their factories. By this extensive addition the firm will be able to increase its production to seventy pianos a week.—*Baltimore American.*

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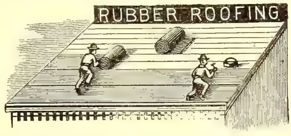

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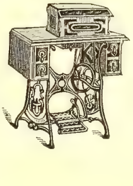

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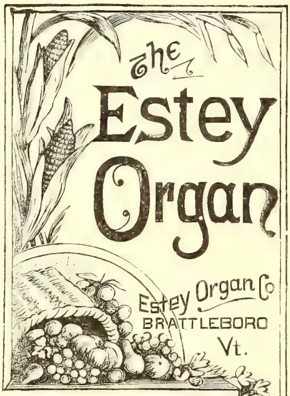

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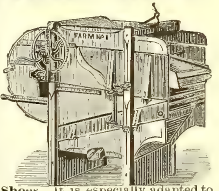

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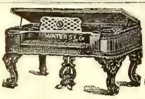

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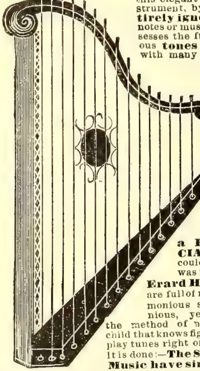

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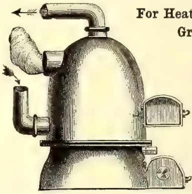

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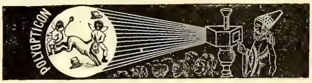

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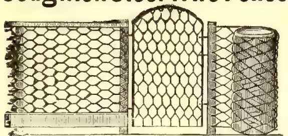

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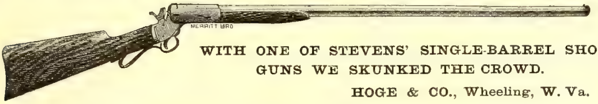

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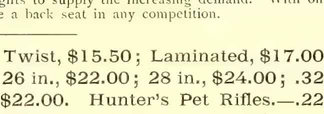

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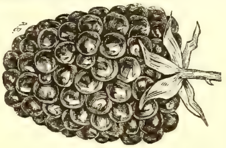

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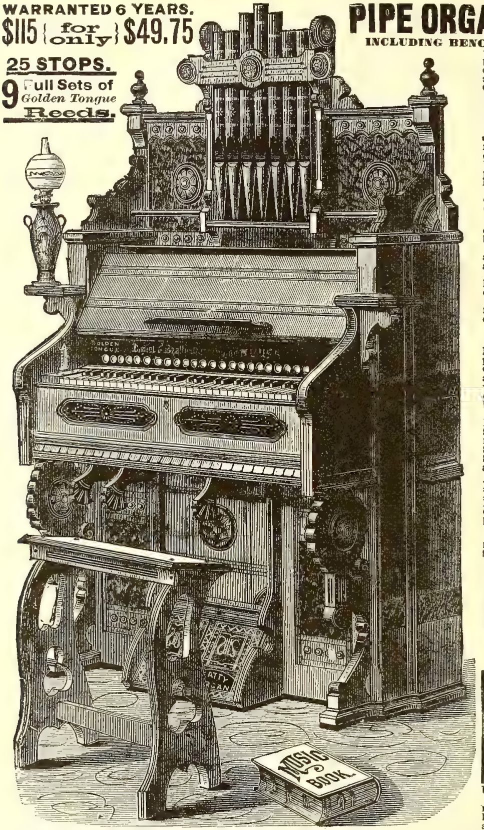

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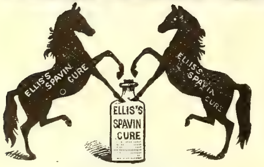

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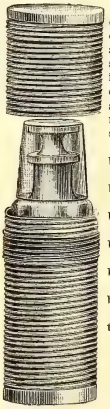

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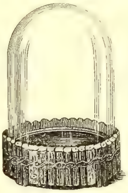

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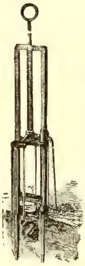

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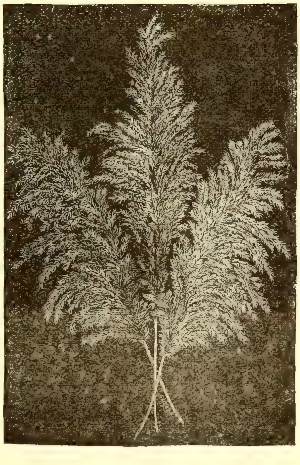

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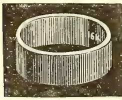

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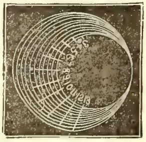

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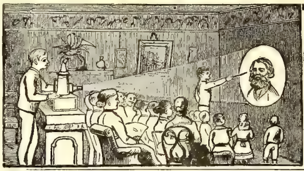

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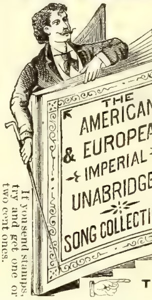

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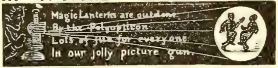
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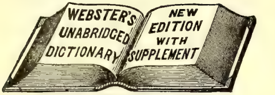

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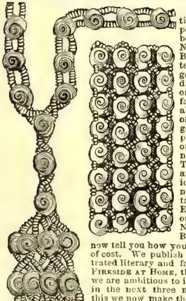

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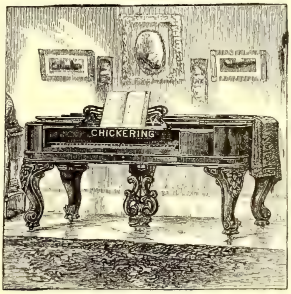

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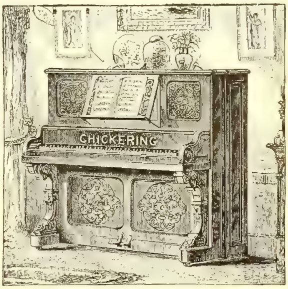

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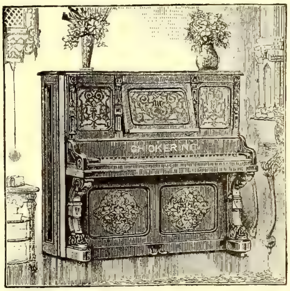

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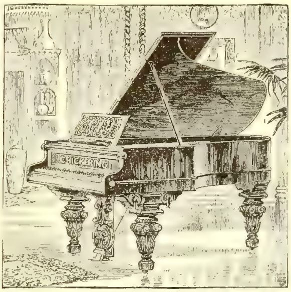

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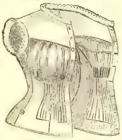

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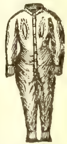

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Vol. IV. NEW-YORK, DECEMBER, 1883. No. 12.

The American Garden.

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TO OUR LADY READERS.

A very large proportion of our readers are ladies, a fact which is not only highly flattering to ourselves and duly appreciated, but which also proves that the interests and advancement of horticulture are largely dependent on their fostering care. As Flora and Pomona, the deities of flowers and fruits, in remote ages have held guard over the products of the garden, so have, up to this day the cultivation of flowers and fine arts, the development of refinement and cultivated taste always received their most ardent support and protection from woman's hand. It is for these reasons that we address ourselves to-day to our lady friends.

The powerful influences of our immediate surroundings upon the development of our minds and character are evident to every one. Yet of the thousands who love flowers and neatly kept grounds, and who would willingly devote a small amount of money and labor to secure them, a great many are deprived of their enjoyment for want of sufficient knowledge about their management.

To supply this want is the object of THE AMERICAN GARDEN, by furnishing practical and reliable information about everything pertaining to the utility and pleasures of the garden, as well as the embellishment and endearment of home. How far we have succeeded in our endeavor we leave to the decision of those who have followed us through past years. To these, as well as to new friends, we can give the assurance that as in the past we have spared no efforts to make our journal a safe guide and welcome visitor, so shall we strive in the future to make every succeeding number better than its predecessors.

But to be able to fully accomplish this end, we need your assistance in bringing our paper to the notice of all those interested in gardening. If you have derived any benefit or pleasure from the perusal of our pages, will you not use your influence to extend their usefulness, by speaking a kind word for us to your friends? There are many thousands of homes to which THE AMERICAN GARDEN would be gladly welcomed if their inmates were made aware of its existence. It is this introduction to the homes of your friends that we ask the favor of according to us. No one can give it as warmly as those who have known us for some time. A kind word from you will go far toward making new friends for us, and if you will only give us the names and addresses of those who you think would be pleased to make our acquaintance, we shall gladly forward specimen copies free of charge.

And now that the great Christian holiday draws near; that the most tender cords of our heart-strings reverberate in sympathetic tones; that kindlier feelings toward our fellow-beings pervade our motives and, actions; that charity and love spend their gifts with lavishing hands,—let us not be unmindful that all the goodness and virtue, all love and charity, are not confined to the human heart alone; all nature responds to their tender pleadings, every luscious fruit, every fragrant flower, teaches the divine sentiments of beauty and love to those who would understand their teachings.

To extend and promote their benign mission throughout our fair land, to beautify every home, and gladden every heart, is our foremost aim, and with this we wish you all

A MERRY CHRISTMAS!

OUR SAVINGS BANK.

Those of our friends who are soliciting subscriptions to THE AMERICAN GARDEN and do not know what Premiums their clubs may entitle them to, are requested to send on the subscriptions as fast as secured. These will be credited to the sender, thus creating a fund—a sort of bank account—against which they may draw at any time such Premiums as the number of subscriptions. The papers will be sent at once on receipt of subscriptions.

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The Vegetable Garden.

SEASONABLE HINTS.

The provident gardener will not close the year without making all possible preparation for the following season. The mild autumn weather and delightful Indian summer days have been unusually favorable for this purpose, so that there is hardly any excuse for any one to be overtaken by frosts and snows before everything is in readiness for going into winter quarters. Whether we may consider it the close of the present or the beginning of the coming season, no work that can be done before the ground remains frozen — unless it be draining swampy places — is of as much importance as plowing.

Fall Plowing and its beneficial results are pretty well understood by intelligent farmers, but in gardens its great advantages are too frequently regarded with indifference. The advantages of fall plowing are manifold. If properly done, that is, if the ground is plowed in narrow lands with deep, clean, dead furrows, sloping with the formation of the ground, between them, it serves the purpose of surface drainage; it exposes the soil to the action of atmospheric influences which disintegrate and make available the fertilizing elements of the earth. The action of the frost loosens and mellows the soil, preparing it for an early and warm seed bed.

In small gardens where plowing is not practicable spading serves the same purpose. In either case the ground should be left rough as turned over, and not leveled or raked off.

Hot-bed Soil for early spring use must be secured and protected before severe winter weather sets in, else when hot-bed making time comes it may be frozen so hard as to make digging impossible. The decayed manure from a spent hot-bed, forked over and mixed with an equal quantity of fresh garden loam, makes an excellent soil for a new bed. It should be thrown in a compact heap in a sheltered place, and covered with any coarse mulching material that is convenient; or a rough roof of old boards may be laid over it, so as to keep the soil dry, and prevent frost from penetrating very deep. Protected in this way the soil will be available at any time.

Sods from old pastures make excellent soil for seed beds, and when the ground is not yet frozen it will prove a good investment to lay in a supply. They should be pared off thin, not more than two inches thick, and laid up in alternate layers with cow manure, leaving a flat top to the pile. When the sods crumple to pieces, which will not be the case before several months, all should be forked over and well mixed together. This furnishes a good compost for almost all requirements, and with the addition of a small portion of sand makes a potting soil suitable for most plants.

Onions, if kept dry, are not injured by moderate cold, provided they are not handled while frost is in them. When large quantities are to be stored, they may be put in barrels, headed up, and covered with hay or straw. We have frequently wintered them successfully by spreading them on a barn floor and covering with a few inches of Oats chaff or finely cut straw.

WINTER CARE OF VEGETABLES.

There are several conditions necessary to the wholesome preservation of winter vegetables. A very large class of farmers and gardeners seem to labor under the impression that the only requisite is frost-proof storage — the closer and warmer the better. This idea is fully exemplified in their practical mangement and construction of cellars and storing-rooms. To be sure, it is imperatively necessary that the frost be excluded from such storing places; but there are other conditions fully as important, if we would have pure air about our dwellings and wholesome vegetables to eat.

Proper drainage and ventilation of our cellars should never be neglected, for there are more vegetables lost each year from lack of attention to these points than there are from exposure to frost, to say nothing of the impure gases rising and penetrating through the dwellings, with all the attendant evils and disease following in their train.

The labor of draining and ventilating is usually slight, and a few hours cannot be better invested than in this most necessary work. For ventilating and purifying the air of a cellar there is nothing better than a small stove or heater. A light fire should be built occasionally, and kept up until the air of the cellar becomes quite dry. The air thus warmed and lightened escapes through the chimney, and pure air comes in from openings provided below to take its place. In case of a very cold spell the temperature of the cellar can be kept up to the required point by the aid of the stove.

Vegetables, even in a condition of good preservation, exude a great amount of moisture. This moisture, unless carried off, will permeate the whole establishment. The vegetables will soon begin to decay and, if piled closely together, as is usually the case, the whole mass rapidly becomes affected.

We are often too economical in regard to the amount of space devoted to the storing of vegetables. Some varieties will stand piling and crowding into bins and heaps, while others can be preserved but few weeks in this way. I have often noticed that those who piled their Squashes in a heap in one corner, were obliged to go without that most excellent vegetable a good share of the winter. If carefully placed in single tiers, on shelves or over bins, they may be kept in good condition until late spring. Onions, too, need to be spread out over considerable surface, and should be given a cool, dry place. Tiers of bins or crates and boxes are much better for many kinds of vegetables than the deep bins so common in cellars. They can then be watched and handled over much more expeditiously.

All vegetables should be sorted over occasionally, and those that are decayed, or that seem inclined to rot, carefully removed not only from the mass, but out of the cellar entirely. The work of cleaning out the cellar is too often postponed until spring, while it should always be *kept* clean.

Many of the vegetables intended for spring use may be more perfectly preserved by pitting. They will always come out crisp and fresh in the spring, if properly buried. This is not a difficult task, if plenty of straw is used between the layers of earth to effectually exclude frost.

There are many who succeed well in raising vegetables, but from lack of care, or from ignorance, allow them to go to waste during the winter. This is an unnecessary loss, as a little intelligent attention to the condition of the cellar will prevent it.

W. D. BOYNTON.

THE CABBAGE-WORM AGAIN.

It is with insecticides as with medicines: the more remedies we find recommended against a certain disease, the surer we may feel that the infallible specific has not yet been found. No physician is in doubt what to prescribe against fever and ague; so does every farmer know what kills Potato-bugs; but when it comes to remedies against Cabbage-worms or some incurable disease flesh is heir to, the number to select from becomes overwhelming.

A correspondent from Westchester County, N. Y., gives high praise to "Hammond's Slug Shot." He says:

"About one half of a lot of Cabbages was dusted over with Slug Shot, as soon as the worms appeared, repeating the operation in about a week. The dusted ones grew right along, making fine heads; while those left to themselves and the worms were almost entirely destroyed, none being fit for use."

A market gardener in northern New-York, writes:

"I have no trouble from Cabbage-worms. I use road-dust and wood-ashes, about half and half, mixed thoroughly, and dust it over the plants about once a week, while the dew is on them. It does the work effectually."

Red Pepper tea applied hot, is recommended by a correspondent from Tennessee as a sure cure for the pest.

BIRD'S EYE PEPPER.

This little gem, which seems unknown in the North, is a great favorite here for seasoning and making pepper-sauce, and about Mobile it is grown in large quantities. It is a perennial; that is, with slight protection it withstands our winters, and bushes are often seen several years old. On Dauphin Island, at the entrance to Mobile Bay, it grows wild, and the plants are seldom killed by the cold; the roots, at least, survive and sprout again in the spring. What its economic value may be at the North as a condiment I cannot say; but its compact, tree-like growth, quite different from most Peppers, its delicate foliage and its great beauty, when loaded with its diminutive berries, makes it well worth a place in the conservatory. Grown in a pot it would be a pretty ornament for the dinner-table, and not a useless one to those who have acquired the southern taste for Peppers at their meals.

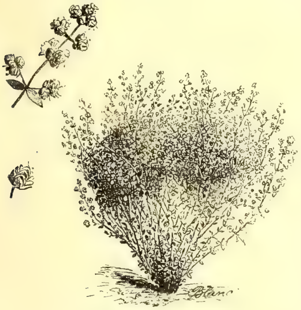
JOS. J. DELCHAMPS.

A LARGE YIELD OF POTATOES.

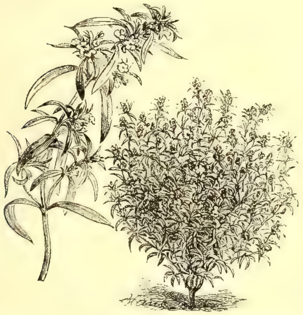
Mr. R. N. Lewis, of northern New-York, after experimenting with a great many varieties of Potatoes, says: "I am more than pleased with the 'Rosy Morn' Potato, and consider it the best early Potato in existence. I planted three and three-quarter pounds last spring, and grew from them *twenty-two hundred and forty pounds* (2240 pounds). They are of the best quality and the earliest I have grown."

SWEET HERBS.

A well-regulated garden cannot be considered complete unless it contains a selection of some of the principal varieties of sweet, aromatic herbs for seasoning soups and other dishes. Some of them are really indispensable; and almost all herbs are serviceable in various culinary operations. In most gardens the herbs are found to occupy some out-of-the-way situation, smothered with weeds and grass, and it is very fortunate if a variety or so can be found when wanted for use.


SWEET MARJORAM.

Although herbs in general can be grown in almost any soil or exposure, they should not be placed under trees or in shaded situations. They love a moderately enriched, deep soil. Along the sunny side of the garden fence is as good a situation as any. A little patch of a few plants of the principal kinds, will furnish an abundance of fresh herbs for an ordinary sized family, as well as a supply for use in a dry state. To secure them in the greatest perfection for the latter purpose, they should be cut on a dry day, just before they commence to bloom, tied into small bunches and hung up in the shade to dry. When dry, rub as fine as practicable, and pack in jars or bottles, corked as tightly as possible, to exclude the air.


SUMMER SAVORY.

In treating of their proper cultivation, it will be found convenient to divide them in two classes, Annuals and Perennials.

The annual varieties come to perfection the first season, and then die. These should be sown in a cold frame, about the middle of April, gradually hardened off, and planted out when all danger of frost is over, or as soon as they are strong enough to be handled. The seeds may also be sown where the plants are to stand; but in this case they must be severely thinned, or else they will be rendered comparatively worthless. As a general rule, the plants should not stand closer than a foot apart each way. The principal cultivated annual herbs are the following:

Sweet Marjoram is one of the most frequently used herbs for flavoring soups and meat dishes. It does not bear transplanting as well as most others, and should therefore be sown in rows where it is to remain, and afterward be thinned out.

Summer Savory, extensively used for various culinary purposes, especially by the French and Germans, with whom String Beans without Savory—called Bean-herb in German—would be considered an impossibility. The seed should be covered but lightly; it may be sown either outdoors, or started in a hotbed and transplanted afterward.

Sweet Basil, used in soups and salads, requires a good deal of heat, and should be started early in pots in the house, and transplanted outdoors when large enough.

Dill is closely related to *Fennel*. It should be sown in the open ground in May and June, in rows two feet apart, and thinned out to six inches. It is used principally for flavoring pickles.

Coriander, the seeds of which are the part used for flavoring soups, salads, and pickles, also confectionery, should be sown where the plants are to stand. They are large, and have to be covered about an inch. A light, rather sandy soil suits it best.

Anise, *Burnet*, *Bene*, *Pennyroyal*, all used more or less for medical purposes, belong to this class, and are of as easy culture as those named.

The perennial varieties remain in perfection, or in a condition suitable for use, for two or more seasons. They succeed best if the seeds can be sown early in the season, and the young plants forwarded as much as possible before it is time to transfer them to the open air. They are much benefited by being protected during the winter season with a covering of the branches of evergreen trees, and every spring a dressing of well rotted manure given and forked in. It is also advisable to renew them occasionally, either by seed or by division of the older plants. Among the principal kinds are

Sage, probably the oldest and most extensively cultivated herb, the many uses of which are familiar to every housekeeper. It is propagated by cuttings or from seed. It likes a light, dry, but very rich soil. Sow outdoors in some sheltered spot, as soon as the ground is in proper condition, and transplant in rows two feet apart and one foot in the rows.

Thyme, well known as a culinary as well as a medicinal herb, requires treatment similar to Sage; but as the seed is very fine, it must be sown in carefully prepared seed beds of fine soil, covered very lightly and well firmed.

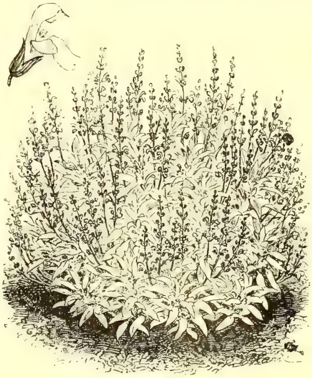
Lavender is much valued for its perfume, the dried flowers and stems being placed between sheets and table linen. It may be propagated by division of the roots, but it is generally raised from seed sown early in the house or hot-bed, transplanting the young plants afterward. The plant, when in flower, is quite ornamental, and well adapted for flower-beds. It is only half-hardy, and has to be covered in winter.

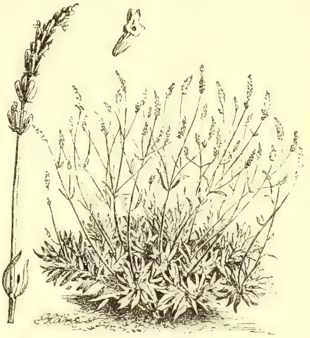
Rosemary, *Balm*, *Catnip*, *Wormwood*, *Hyssop*, and many other popular medicinal herbs, still to be found in many old gardens, belong to this class.

CHAS. E. PARNELL.

GROCERY SEEDS.

Dr. Sturtevant's experiments with seeds obtained from a great many sources lead him to remark, that his experience with "grocery seeds," that is, the packages from boxes distributed to be sold on commission, has been so extremely unsatisfactory that he is fain to believe that it is only the ignorance of the purchaser that retains this abominable system of sale. The purchaser who knows the importance of good seeds avoids these commission seeds and sends for his annual supply directly to the seedman, a course which is rendered easy through the admirable facilities furnished by our post-office department and the various express companies whose lines ramify so extensively throughout our country. It is safe to say that the farmer or gardener who, from carelessness, lack of forethought, or a false economy, purchases his supply from these commission packages, in the end loses dollars where he saves cents; secures temporary convenience at the expense of future tribulation. It is difficult for the average grower of crops to realize what experience invariably teaches, that cheap seed means cheap yield; that quality in seeds costs the grower and costs the dealer and must be paid for in the end by the purchaser.


SAGE.


LAVENDER.

The Fruit Garden.

SEASONABLE HINTS.

Winter Protection.—The amount of resistance which a plant offers against cold cannot be accurately stated in thermometric degrees. The same variety may in one year withstand a temperature considerably below zero, while the following season it perishes in a temperature several degrees warmer. It is with plants very much as with ourselves; we may take a severe cold, leading perhaps to a fatal termination, under a degree of exposure which we have previously endured with impunity. All depends upon the temporary amount of resisting power within us. When we are in good physical condition our resisting power is greater than when we are worn out or our digestion or other functions are impaired. In a similar manner has well-matured wood more cold-resisting elements than that which is green and unripe. The more sap there is in a plant the sooner will it suffer from frost.

Thus it will be seen that the primary preventive against winter-killing consists in good cultivation during summer, and the employment of all possible means for the development of health, vigor, and early maturity of our plants.

Raspberries.—Up to within a comparatively recent date nearly all our cultivated Raspberries were half-hardy foreign varieties which required winter protection. With the introduction of several excellent native varieties, however, this safeguard is not as imperative as formerly; yet in some exposed localities, and especially where the ground is not usually covered with snow during winter, some means for protection may be employed to considerable advantage. The easiest way to do this is to gather together the canes of a stool, bend them down lengthwise with the row, and throw a shovelful of soil upon the ends, enough to hold the canes down; when the entire row is prepared in this way, more soil is thrown on, so as to cover all the canes. In field culture a plow is run along both sides of the rows, throwing the soil over the canes. If the ground is already frozen, rails may be used for holding the canes down, and leaves and cornstalks as mulching material.

Cleaning Cider Barrels.—How to clean old cider barrels is one of the queries on hand. Rinsing them out with lime, ashes, or soil and boiling water are the means generally employed; still better is to take out one of the heads and scrub the inside thoroughly with sand, and replace the head. But the fact is, a barrel which needs cleaning is not fit for storage of good cider, to begin with. Those who understand the making of good cider never have unclean barrels. Every cask used for cider should be thoroughly washed inside and outside, with hot water, immediately after its contents have been racked off, and stored for future use, in a dry, open place, not in a damp cellar. There is no method by which musty barrels can be made as good as new ones. A careful cider maker would no more think of putting cider in a musty cask, no matter how carefully cleaned, as a good dairy man would of packing butter in a petroleum barrel.

THE NEWER GRAPES.

Soil, aspect, culture, elevation, mode of pruning, training, and, in short, all the various surroundings in Grape culture are so important in the production of large and handsome clusters, that one is often at a loss what kinds to select for a short list of varieties best suited to our wants. The list of promising and really good Grapes is already large, so that in the limited space which the editor places at my disposal I can only name those possessing the greatest merit.

WHITE GRAPES.

Pocklington, seedling of Concord, strong, vigorous grower, hardy; bunch, after five or six years' fruiting, very large; berry very large; color golden-yellow—hence sometimes called Golden Pocklington; flavor sweet, though rather foxy. Succeeds best on strong, heavy clay. Vine said to be iron-clad so far as cold is concerned. Largest size berries of any Grape.

Empire State.—One of the best of Mr. Rickett's seedlings. Parentage, Clinton and Hartford; color, greenish-white; flavor, similar to Muscat Hamburg; bunch large, shouldered; growth and foliage good. Though not disseminated to any great extent as yet, still it is well worthy of trial. Season a week before Concord.

Hayes, or *Francis B. Hayes.*—Seedling of John B. Moore, Concord, Mass. Bunch medium, short, compact, slightly shouldered; berry medium or below; round, yellow-amber in color, with slight whitest bloom; juicy, sweet; ripens a little before Concord; especially valuable for the New England States.

Duchess.—This is a Grape of excellent quality; free from pulp; greenish-yellow, sometimes golden-yellow, when mature; vine, a very vigorous grower and productive. In some locations and seasons it rots; still, the quality of the fruit is too good to neglect its culture.

Lady Washington.—One of the most showy Grapes grown; pale yellow, with a tinge of pink where exposed to the sun; flesh soft, tender, juicy, sweet; a very good Grape. Vine vigorous and hardy. Ripens about the time of Concord.

RED GRAPES.

Brighton.—This is one of the best of the early Grapes. Bunch medium to large; berries medium to large; bright red at first, changing to dark crimson at maturity. It has its best flavor when first ripe, afterward loses its sprightly flavor. Ripens nearly as early as Hartford Prolific. Vine, a rapid, vigorous grower.

Jefferson.—Seedling of Concord and Iona. Vine vigorous and productive; bunch large, often double-shouldered; berry, medium to large; color, light red, with a lilac bloom; flesh meaty, tender, and rich. It maintains its freshness a long time after being picked. Ripens late—about time of Catawba.

Vergennes.—A strong, rapid grower; bunch medium; berry, medium to large; color, red; flavor good. Ripens about with Concord.

Wyoming Red.—This, though not exactly new, is one of the earliest, ripening about with the Champion. Leaf and wood similar to Delaware, but much more vigorous, and fruit darker in color; very foxy. A good keeper and bearer. Think it would be especially valuable in locations where the season is too short for Concords to ripen.

BLACK GRAPES.

Early Dawn (Dr. Culbert), from Muscat, Hamburg and Isabella. Next to Champion in earliness. Black, bunch long, loose, occasionally double-shouldered; skin tough; vine vigorous; flavor good.

Early Victor.—Has not been fruited to any great extent; vigorous grower; bunch medium; quality very good and pure. A few days later than Moore's Early.

Moore's Early.—Ripens about a week before the Concord. Bunches shorter and thicker; berries larger and in quality about the same as Concord.

Worden.—A seedling of the Concord, earlier than that variety, and in all respects superior to it. It is rapidly growing in popular favor. In fact, no Grape is making a better record. In bunch and size of berry larger than Concord and much sweeter. Its only drawback is its thin skin.

Herbert (Rogers No. 44).—Bunch medium; berries large size; black; flesh very sweet and tender; early and productive.

J. B. Rogers.

CHANGING THE BEARING YEAR.

Commenting on the uncertainties of success in this regard, J. C. Plumb says in the *Western Farmer:* A year ago last spring I made the attempt to change the bearing year of a few Apple-trees. Accordingly, the blossoms were carefully removed by hand from a Siberian Crab, a Walbridge, a Tetofsky, and a Fall Stripe tree, four in all. Trees besides these of the same varieties were all heavily loaded with fruit last season except the Siberians, which failed to perfect their fruit. And what is the result? The wind blew down the Walbridge tree, and not an apple will we get from any of the others. So much for the first trial of changing the bearing year. Scarcely an apple set on any of the trees, and those that did were wormy and knotty, and soon fell off. Causes wholly outside the tree are an important factor in the question, and until we can modify the weather and hold insects in abeyance I doubt if we will get our apples any more regularly in the future than in the past. Still it should always be borne in mind that one experiment proves nothing.

THE LARGEST APPLE-TREE.

On the farm of Delos Hotchkiss, Marion, Conn., is an Apple-tree which is larger than any we have ever heard of. *H. C. Hovey* gives its measurement in the *Scientific American:* Circumference of the trunk near the ground, 15 feet 3 inches; at the fork, 16 feet 2 inches; height of tree, 60 feet; diameter of tree-top, 104 feet.

A peculiarity of this tree is, says Mr. Hovey, that five limbs have borne one year and four the next. The usual yield from five limbs is about 85 bushels, although in a single instance it reached 110 bushels; and the four limbs vary from 35 to 40 bushels.

The age of this venerable Apple-tree is estimated at about 175 to 180 years. Curiously enough the patriotic old tree marked the centennial year by bearing fruit on *all* its branches. Signs of decay appear in many places, and it is thought that this noble specimen of *Pyrus malus* will soon be numbered among the things of the past.

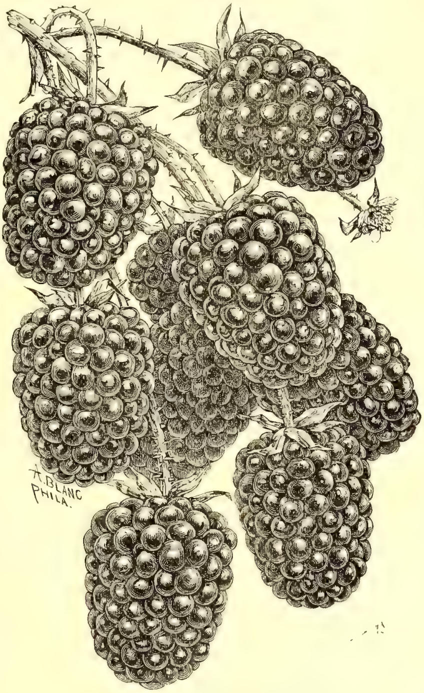
THE WILSON JUNIOR BLACKBERRY.

Kittatinny, New Rochelle, Wilson's Early, and all our cultivated Blackberries, so far, have been chance seedlings found growing wild in some out-of-the-way place, favorable to their development. The advent of a seedling Blackberry, raised from "pedigree" seed notes, therefore, a not unimportant epoch in Blackberry culture.

Up to the present time Wilson's Early held undisputed sway as the best and most profitable market variety south of the latitude of New-York; within the last few years, however, it has shown signs of "running out," weakened constitution and the highly objectionable tendency to produce double flowers resulting in consequent barrenness. Desiring to perpetuate and improve, if possible, its good qualities, Mr. Wm. Parry, of Parry, N. J., has, during a series of years, raised a large number of seedlings from selected berries of this variety; and, among those produced in 1875 from berries measuring three inches in circumference, the Wilson Junior was selected as possessing more good points than any other Blackberry hitherto known.

We have not yet seen or grown the Wilson Junior Blackberry, and give, therefore, the description as received from Judge Parry:

"The fruit is large and early, is luscious and sweet as soon as black, holds its bright color, and bears carriage well. The plants are hardy and productive; canes round, long, slender, entirely free from rust; bend over and strike root at the tips; sends up but few suckers; spines small and recurved; foliage large and thumb of mitten-shaped, and generally has about the same appearance as its parent (the Wilson's Early), and is substantially a reproduction of the excellent qualities of that good old variety in a new berry, ripening early, more productive, and more than one-quarter of a century younger than the Old Wilson, from which it grew."



THE WILSON JUNIOR BLACKBERRY.

THE BORERS OF THE APPLE TREE.

The Apple-tree borers have been unusually abundant in some localities this year, and a few notes on these pests, with most approved remedies, may not be amiss.

There are at least two destructive borers of the Apple-tree. The first one which we will mention is the Flat-headed borer *(Chrysobothris femorata).* This is a native of the United States, and is the larval state of a very active beetle, which, as Prof. Saunders says in his recent work on "Insects Injurious to Fruits," delights to bask in the hot sunshine, running up and down the bark of a tree with great rapidity, but instantly taking wing if an attempt be made to capture it.

The beetle is of an oblong form, nearly half an inch in length, and shining greenish black in color. The under side and the legs are copper-colored, while the feet are green. This pest is abundant in all parts of the country, and does not confine its attentions to the Apple-tree—attacking the Pear, Plum, and sometimes the Peach. The beetle may be found from May on through the summer months. The female deposits the small, yellow, irregularly-ribbed eggs with a glutinous material under the loose bark, either singly or in groups.

The larvæ soon hatch, and eat their way through the bark into the soft or sap wood of the infested tree. As the larva grows older it bores deeper and works upward, making irregular channels in the substance of the base of the tree. The mature larva is a footless grub, of a pale yellow color, with the head large and flattened in a peculiar manner. When the borer is about to pass into the inactive or pupa state it cuts its way nearly to the surface. It is not known whether it requires more than one season for the larvæ to reach the chrysalis state, In less than a month after pupation the perfect insect eats its way through the bark at the end of the burrow.

Under the head of remedies, it may be first stated that all Apple-trees should be carefully examined in the fall, and if borers are detected, either by a discoloration of the bark, or by the sawdust-like castings, the affected parts should be opened with a knife and the grub destroyed. Those which are not near the surface can be reached by a stout wire thrust up to the ends of the burrows, where they are punched and killed. Great care needs to be taken in cutting away the bark to reach the borer, that the tree be as little girdled as possible. A careless hand with the knife can do more damage than the insect pest which he is trying to find.

There are a number of substances used upon the surface of the tree to prevent the female beetles from depositing their eggs. Alkaline washes are the leading substances thus employed. Soft soap, mixed with washing soda, and then applied to the bark with a large brush will, if spread on a hot day, form a tough coating not easily removed by rains. The first application of this alkaline mixture should be made before the beetles begin to deposit their eggs, which is often in May.

There are several natural enemies of the Apple-borers, as the woodpeckers and parasitic insects. Among the latter are some species of Ichneumon flies.

A second kind of Apple-tree borer is known as the Round-headed Borer *(Saperda candida).* This is also a native pest, and is widely known throughout the United States, inhabiting the June-berry, Pear, Quince, Mountain Ash, etc., besides the Apple-tree. The beetle is a showy one, three-fourths of an inch long, with cream-colored stripes on a brown back-ground, running the whole length of the body. It makes its appearance in early summer, and the eggs are deposited on the bark, near the base of the tree to be bored, in a manner similar to the Flat-headed Borer.

The young larvæ bore into the foot of the tree, as above described, when they eat out flat cavities an inch or so across. The castings may be seen at the opening of the burrows. The borers live three years before reaching maturity, and on the approach of winter they descend to the lower end of the channels and remain dormant until spring.

The burrowing during the second year is extensive, at the end of which time the larva closes up the channels already cut, and with provision made for the easy escape of the beetle elsewhere, it pupates, and the perfect insect appears in the following June or July. The larva is whitish, with a large, round, brown head and black jaws. It is legless, and moves in the manner of an earth worm.

The remedies which have been given for the Flat-headed borer apply with equal force to the round-headed species. If possible, keep the larvæ out of the trunks of the trees by the use of some repulsive substance spread on the trunk where the females deposit their eggs. When the borers are once within the tree the only successful method thus far discovered is to reach them either with a knife or a probe. Use all care in this work, and remove as little bark and wood as possible.

Dr. D. B. Halsted.

CALIFORNIA PRUNES.

In some parts of California Prunes appear to succeed remarkably well. Two hundred trees, occupying an acre and a half, in Carpentaria, are reported to have yielded enough fruit to produce four tons of dried Prunes. As California Prunes are fully equal in quality to imported ones, and demand for them is rapidly increasing, this industry should soon develop into large dimensions.

The Flower Garden.

(Written for THE AMERICAN GARDEN.)

IN NATURE'S SCHOOL.

To-day I have been roaming
Among the woodland nooks,
And in the quaint old pastures,
And by the lathing brooks;
And I have seen such beauty,
And learned such secrets sweet,
That I long to dwell with Nature,
And sit down at her feet.

Like torches made of sunshine,
To light a cloudy day,
The Golden Rod was glowing
Beside the fences gray;
And at its side the Aster
Looked up with drowsy eyes,
On every fringy petal
A hint of autumn skies.

The Oaks were clad in scarlet,
The Elms in palest gold;
The Pines seemed friars chanting
A mass for earth grown old.
The Sumach's tufted branches,
Were bright with rainbow dyes,
And the Maples seemed a bonfire
Against the hazy skies.

I heard the ripe nuts dropping,
Like rain from Beech and Oak,
And the chatter of the squirrels
The woodland echoes woke.
They were all at work in harvest,
And out of every tree,
I heard their sharp opinions
Of idle folk like me.

I saw the nests deserted
On many a swaying limb;
I heard the quail's shrill piping,
But caught no glimpse of him.
I saw some lingering robins,
Where Woodbine clusters hung;
But not one song of summer
The sober creatures sung.

I cannot tell the secrets
I read from Nature's book,
To the sound of ripe leaves falling,
And the music of the brook.
If you would learn her wisdom,
Go like a child to her,
And bird and tree and blossom
Will be interpreter.

—EBEN E. REXFORD.

SEASONABLE HINTS.

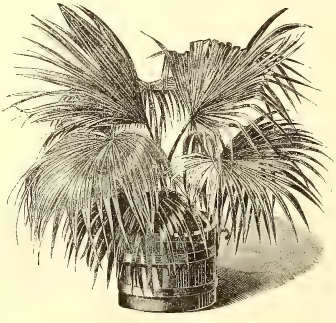
As the loving house-mother, before retiring for the night, takes a last look at her loved ones, closing firmer the doors and windows in the children's room, or putting an additional blanket perhaps on baby's bed, so will a good gardener give now the finishing touches to his season's work, and provide, as much as is in his power, for the welfare of those of his pets which have to be intrusted to the care of mother earth during the inclemencies of winter.

Protection of some kind is beneficial to nearly all outdoor plants, even those considered hardy. All perennial plants and bulbs should have a light covering during winter. A thin coat of coarse litter from the stable answers the purpose well enough, but is objectionable on account of its unsightliness. Leaves, overlaid with evergreen branches, are preferable in this regard.

Roses and *Half Hardy Woody Plants* in general should be laid down and covered with soil or sods; or, if standards or large bushes, matting, sacks, or evergreen branches should be tied loosely around them.

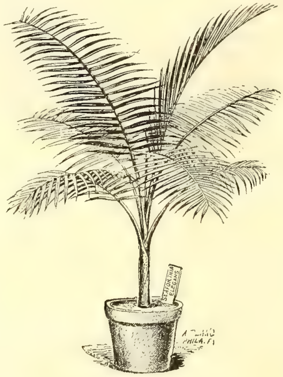
PALMS.

For general decorative purposes, I do not know a class of plants more suitable than some of the Palms. Out of doors during summer they stand with impunity the hot sun, if plenty of water is supplied them at the roots, and the plumose section bear without injury exposed situations, where strong winds are liable to shatter the foliage of more tender plants. The leaves of the palmate kinds, when too much exposed to the wind, are apt to tear and split, giving them a straggling appearance. Small plants are very suitable for table decoration, and for the ornamentation of large rooms, halls, and theater stages when a tropical effect is wanted. What can be prettier than well-grown plants of *Cocos Weddeliana, Phœnix rupicola,* or *Latania Borbonica.*



LATANIA BORBONICA.

Florists are giving now more attention to the propagation of the different leading kinds, which has brought the prices of even the rarer species within the reach of most every one. Leading seedsmen also advertise Palm seeds at remarkably reasonable rates, so that if one wants to start plants from seeds he has not to send abroad for them, as was necessary but a few years ago; a good supply is now procurable at home.



SEAFORTHIA ELEGANS.

Young plants, of most varieties, are best grown in rather peaty soil, well mixed with sand. As they increase in size and it becomes desirable to retard their growth, substitute sandy loam with but very little peat or leaf-mold mixed through it. In this kind of soil they grow slower, at the same time maintaining their green, healthy appearance. Palms generally soon show the evil effect of having been kept too dry, by the decay of the ends of the leaves, and nothing looks worse than a finely shaped plant with the ends of the leaves thus disfigured.

Among the hundreds of beautiful and interesting Palms, we mention those most worthy of culture and easily grown.

Areca lutescens.—A most elegant Palm of the plumose section. The pinnate leaves are of a dark-green color and have a beautiful arching form. It does best when used out of doors, in a partially shaded position.

A. rubra is another beautiful plant, similar to the above, having the petioles of a reddish color, and grows much faster.

Chamædorea elegans.—A Mexican species, of beautiful and graceful form. The dark rich green leaves are pinnate, and beautifully drooping in habit.

Cocos Weddeliana.—The introduction of this Palm into European gardens caused considerable excitement among horticulturists generally. Its graceful form being superior to any member of the Palm family previously introduced, and I consider it the most beautiful one in cultivation to-day. The leaves are finely arched, about two to three feet long, the pinnæ long and narrow, rich green on the upper side, the under side glaucous. It is a native of South America, and should be seen in every collection of plants of any pretensions.

Chamærops excelsa.—The leaves of this East Indian Palm are fan-shaped and supported on long petioles. They are of a dark-green color. It is a plant well worth growing.

C. humilis is the most beautiful of the Chamærops genus. The leaves, which are finely divided, are of a glaucous color on both sides. It is liable to suckering, forming a bush, and making it a splendid plant for vases and other similar positions.

Hyophorbe Verschaffelti—A pinnate species of free growth, makes an excellent specimen. The leaves are five to six feet long, and the habit very symmetrical. This plant requires a liberal supply of water when growing.

Latania Borbonica.—A palmate species and one of the finest for general decorative purposes. The leaves are large, bright green in color, supported on long petioles, the stem being covered with a mass of fibrous tissue. It is often found under the name of *Livistonia Borbonica* and *Livistonia sinensis.*

Seaforthia elegans, a pinnate-leaved Palm from Australia, and one of the best. It is of strong, healthy, hardy constitution, enduring considerable frost without injury. I have a plant at present, making a strong growth, which was exposed last winter for about twenty-four hours to a temperature of from 8° to 10° below freezing, the soil around the roots being frozen solid; but it is better to prevent all such exposure if possible.

Phœnix rupicola.—A beautiful plant for decorative purposes. The leaves are mostly pinnate, beautifully arched and well furnished to the surface of the pot. This makes a very attractive plant for the window, never growing to a large size.

There are many other beautiful species, of easy culture; but for the beginner it is best to confine himself to but few kinds at first, and to study their wants and needs before experimenting with a large collection.

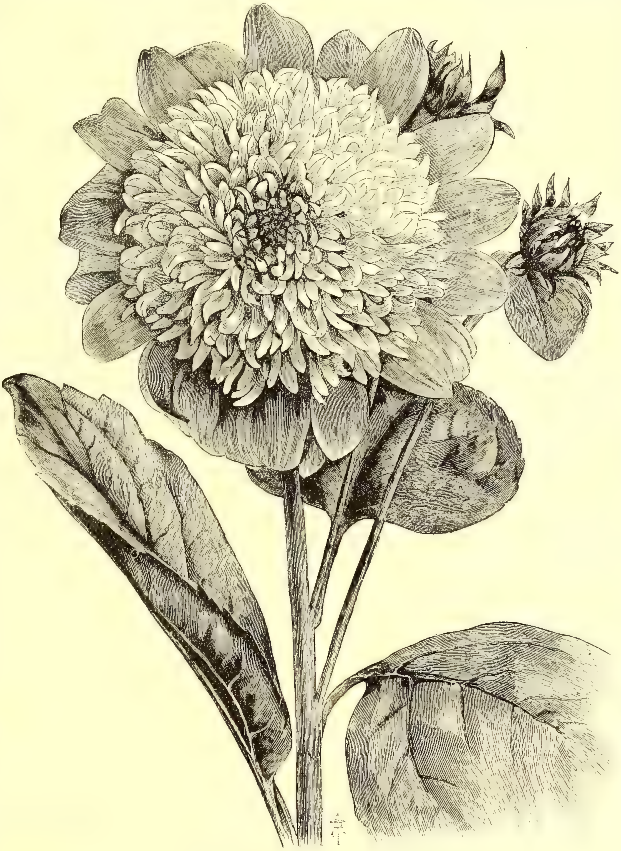
M. MILTON.

THE DOUBLE PERENNIAL SUNFLOWER.

(Helianthus multiflorus flore-pleno.)

The accompanying illustration, reproduced from the *London Garden*, represents one of the best autumn-blooming herbaceous plants. It is one of the many excellent species which in the course of fashion have become temporarily superseded, but whose intrinsic merit insists in making them recognized and re-introduced to rank and admiration. The plant, which is entirely hardy, should be set out in early spring, and although it will grow in any good garden soil, a forkful of decomposed manure forked around the roots after they are established will greatly improve it. It grows from four to five feet in height, and bears from the middle of summer, through autumn, a great profusion of globular, rich golden yellow flowers of the size of large Chrysanthemums or small Dahlias. They are exceedingly showy and brilliant, blooming a long time and keeping well in vases. They are well adapted for mixed beds among Dahlias, and especially along the borders of shrubberies, as they do not require annual planting. In dry weather, occasional waterings with liquid manure improve the plant and flowers. During winter it is advisable to cover the roots lightly with leaves or coarse manure.

[Subscribers to The American Garden may obtain a plant *free*, as a premium, by stating so at the time of sending their subscription.]



THE DOUBLE PERENNIAL SUNFLOWER.

CHANGING THE COLORS OF FLOWERS BY CULTIVATION.

Our knowledge of the chemistry of vegetable pigments is not yet sufficiently advanced, for which reason the effect of artificial influence upon the color tone of flowers has not yet received its merited attention. According to the view stated by August Vogel, in *Popular Science Monthly*, tannin is an important factor in the generation of vegetable colors; it is found in almost every plant, the petals not excepted, and by the action of the most varying re-agents—alkalies, earths, metallic salts, etc.—it assumes the most manifold hues, from pale rose to deep black. A darker color, therefore, is produced in flowers rich in tannin, when manured with iron salts, since, as everybody knows, tannin and iron salts dye black and produce ink. A practical use has been made of this fact in the raising of Hydrangeas and Dahlias. The former, which in ordinary soil blossomed pale red, became sky-blue when transplanted into soil heavily manured with iron ocher, or when occasionally watered with a dilute alum solution.

It is well known to every florist that a change of location—that is, a change of light, temperature, and soil (replanting)—occasionally produces new colors, whence it may be deducted that an interrupted nutrition of the flower may, under certain circumstances, effect a change of color. We see no valid reason why the well-authenticated fact of the change of color produced by manuring with iron oxide, thereby changing the nutrition of the plant, should not be practically employed by the gardener.

Another very singular and successful experiment, in producing a change of color in a bird, has recently been made. A breeder of canary birds conceived the idea of feeding a young bird with a mixture of steeped bread and finely pulverized red Cayenne pepper. Without injuring the bird, the pigment of the spice passed into the blood and dyed its plumage deep red. The celebrated ornithologist Russ believes that the color of plumage of birds might be altered according to desire by using appropriate re-agents.

A BEAUTIFUL NATIVE PLANT.

One of the most ornamental herbaceous plants is our indigenous Butterfly-weed, or Pleurisy-root (*Asclepias tuberosa*), found everywhere growing wild along roadsides, and on rather dry, sandy slopes, especially southward. It is a perennial, upright herb, about one to two feet high, with oblong-lanceolate leaves covering the stems to the summit. Its bright orange flowers are born in large, terminal corymbs, and when in full bloom densely cover the plants, producing a most brilliant effect. The roots are tuberous, and penetrate the soil to considerable depth. Large plants are therefore somewhat difficult to move; but small specimens may be transplanted successfully, and will thrive in almost any soil and location; yet sandy loam and a sunny position are most favorable for their growth. The plants should be taken up in the fall after flowering, or early in spring. For adding color to a group of evergreen shrubs in a lawn during late summer and early autumn, nothing can be more effective than a few clumps of these Asclepias planted along the outer border.

There are several other beautiful indigenous species of this genus which well deserve a place in the flower garden.

A PRETTY COMBINATION.

This was as simple as it was effective, says the *Gardener's Chronicle*. Two or three plants of *Tropæolum peregrinum* planted at the base of a single pink Dahlia had grown up in among the branches, and so formed a dense bush, the leaves and flowers of the Dahlia showing through the wreaths of yellow flowers of the Tropæolum. It made a charming floral picture. Some of the choice varieties of Convolvulus major, Sweet Peas, and other plants of a clinging habit, can be used in this way.

CHRISTMAS ROSES.

This name is somewhat deceptive, and will disappoint those who expect Roses at Christmas. Yet the flowers, although they resemble in shape a Buttercup more than a Rose, and bloom not at Christmas here as they do in the milder climate of England, are very pretty. The roots should be planted in a deep, rich soil, in a sheltered situation, and covered during winter. They are also well adapted for pot culture in the house.

The Window Garden
AND GREENHOUSE.

PREPARING FOR WINDOW GARDENING.

There is a ragged, vagrant look about the garden now which would be unendurable were it not for the window gardens which give such a charming, cosy appearance to the barest of apartments. Indeed, all the rarest *bijouterie* of the day cannot supply the place of clustering Vines, climbing Ivies, variegated plants, and all the lovely flowers which fill the plant stands, brackets, and window-sills of all true flower lovers. For Nature's handiwork far surpasses man's art, and she offers it to us unsparingly. A trifling expense, and a little daily care, is all that she demands for draperies and decorations more beautiful than art can supply.

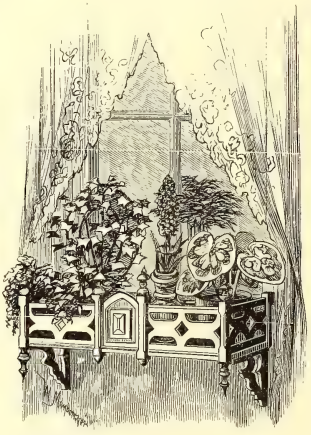
A tin-can filled with Moneywort or Coliseum Ivy, or "*Jill-run-over-the-ground*," and suspended in a cottage window, will change a squalid room into a green bower. And all these plants are as plentiful as the grass in many localities, and can be had for the asking.

In preparing a window to hold plants, if the room is so arranged that it can be well aired by another window or another door, be sure to stop up every crevice in the casings, so that cold air cannot chill the plants. Black cotton wadding is an excellent thing to press into the sides of the windows of old houses which have not been made air-tight. Pull it off or cut it in small strips, and tuck it in with a broad bladed case-knife. Put it, also, between the upper and lower sashes, and at the top and bottom of the window. Then cut some thin oil-cloth, such as is used for tables, into pieces that will fit the lower shelf of the window. If it is too narrow, have a board covered with oil-cloth fitted into it by a carpenter; also, one at the middle of the window; or purchase a black walnut shelf, and attach it to the sides of the casement across the middle and at the bottom. Thus prepared you can winter from thirty-five to forty-five plants at one window, and do away with a plant-stand entirely, while the plants will thrive very much better for being placed so near to the glass, and having the benefit of all the sunshine.

A broad shelf can be fastened into the lower part of the window with a support on a hinge to fasten it into the mop-board, and a long strip of oil-cloth can be laid underneath it, to protect the carpet from drippings of water. Plants require as much fresh air as ourselves, and they never can thrive in close, furnace, or stove-heated apartments, unless they are thoroughly aired every morning after the chilliness of the air is somewhat lessened. Yet, care must be taken not to let the cold draft strike fully upon them. An upper sash dropped on the same side of the room as the window garden will give them change of temperature.

An excellent sprinkler has been invented for house plants, but a little dust-broom dipped into a pail of warm water will also improvise a summer shower. By all means place a saucer under each pot of flowers. It is as needful for the plant as is the saucer to your coffee cup. And when the air is very icy on a winter's morning, a small quantity of boiling hot water poured into the saucers will be as refreshing to the plants as your beverage of coffee or tea is to yourself. But do not keep the saucers filled with water all the time; if any remains in them for more than half an hour after watering, it should be poured out. Always give water to plants which is quite warm to the hand, cold water being very depressing to plant growth in winter, while warm water is as reviving to them.

DAISY EYEBRIGHT.



ORNAMENTAL WINDOW-GARDEN SHELF.

HEATING A SMALL GREENHOUSE.

About fifteen years ago, one of my neighbors built an elaborate greenhouse, 35 feet long and 12 wide, with a path 2 feet wide between the side benches. The furnace room, at the north end, was a lean-to, 8x12 feet in dimensions. The house was built for raising early Lettuce under glass; but after spending ten years in experimenting, changing heating apparatus three times, and incurring a total expense of over $2000, the whole thing was given up; and having other use for the 3x6 feet sashes that covered it, he dismantled it, and decided to pull it down. I gave a small sum for the woodwork, carried it by man power a quarter of a mile in sections, and replaced the brick according to my ideas of heating a small greenhouse.

I am now making it useful for the very purposes for which it had been found useless. I had never previously done a day's work in a greenhouse, but knew I could learn, and had already learned something by the failure of another. Being a market gardener, I wanted the house for a variety of uses; and I can say, after two winters' experience, that it has been the most satisfactory experiment I have made in my twenty years' experience with choice and "fancy" vegetables.

My plan was to heat *easily* and *cheaply* a *detached greenhouse*, so that I could have early vegetables to sell and early vegetable plants to set in my own grounds as well as for market. Besides, I have raised and sold quantities of the half-hardy flowering plants, such as Geraniums, Verbenas, Petunias, and Pansies, Callas, Heliotropes, Fuchsias, etc., with a reserve for my own grounds. The result is a complete success.

The furnace-pit is broad and roomy; the fire-box is arched with fire-brick, laid in lime mortar; is fifteen inches wide, two feet high, and three feet deep. The brick smoke-flue is six inches square inside, rests upon the ground, and runs under the benches on the sides and one end, having a rise of two feet from the furnace to the chimney, which comes out six feet above the roof of the lean-to for better draft. There is seventy-five feet of horizontal flue exposed on the sides, and if I could have had flagging or slate to lay the flue and raised it clear from the ground, I could have had heat from all four sides. As it is, I lose about one-fourth of the heat.

The fuel is wood. I build the fire in winter from three to six o'clock in the afternoon, daily—according to the weather. The seventy-five feet of brick flue gets sissing hot at the furnace in an hour, and will radiate its heat all night long.

The sun gives heat enough by day, except in very cold or cloudy weather. I like best the light woods, as Pine and Hemlock, which carry a brisk flame well along in the flue. In the season of 1881 I used saw-mill chips and slabs, at a cost of $10. In 1882, knotty and crooked cord-wood, costing $8. Sawed it once and burned it without splitting. For this year, 1883, I gave $1 for a dead Elm near home; cut it with a cross-cut saw into two feet lengths, split it to enter the furnace door (ten by fifteen inches), and had over four cords fuel at a cost of $12. A big "chunk" put in the fire at ten at night will make all safe till morning. The lowest temperature I have recorded in the morning was 33°. Last winter the coldest day was February 13th, 8° below Zero. I built the last fire this spring, March 30; the first this fall, November 13th.

I sold $150 worth from the house in 1881. That was my first year. I get much more than that now. Besides, I have all my own plants "free." These amount to several thousands, including, Celery, Celeriac, Leek, Tomato, Peppers, Lettuce, and so on. This size house is as large as can safely be heated by this plan in this latitude.

The house is banked outside with earth, against two-inch Chestnut plank; and sodded to the glsss. I keep this bank nicely trimmed in summer. Is watered with water dipped from an open barrel under the bench, supplied from the house well by an underground pipe. There is only room enough inside to stand upright in the path and reach the highest point; this saves heat, and the sashes are easily raised or lowered for air. It is well protected from gusts of wind; stands on a north and south line, and so gets the sun all day; is not shaded by trees; is not connected with any other building, and is but sixty feet from the kitchen door. Work in it is a pleasure; and the results are appreciated, supplying our own table, and giving employment by turns to every member of the family.

A new structure of this kind would cost about $6 per running foot, in this locality, or say $250. At first thought, wood fuel seems expensive, with good wood selling at $6 or $8 per cord; but by building a big furnace, and picking up odds and ends of wood cheaply, one can have cheap fuel, suit the fire to the weather, and save all the heat.

W. H. BULL.

GUERNSEY LILIES.

Nerine.

Considering the general desire for easily cultivated plants with showy flowers which will thrive in a small conservatory or window, it is surprising that the Nerines are not oftener found among those interesting little collections which receive so much care from the amateur. This neglect can only be attributed to the supposition that they are difficult to manage. Nothing is further from the truth, as will be seen from the following directions given in *Gardening Illustrated*, to which we are indebted for our illustration.

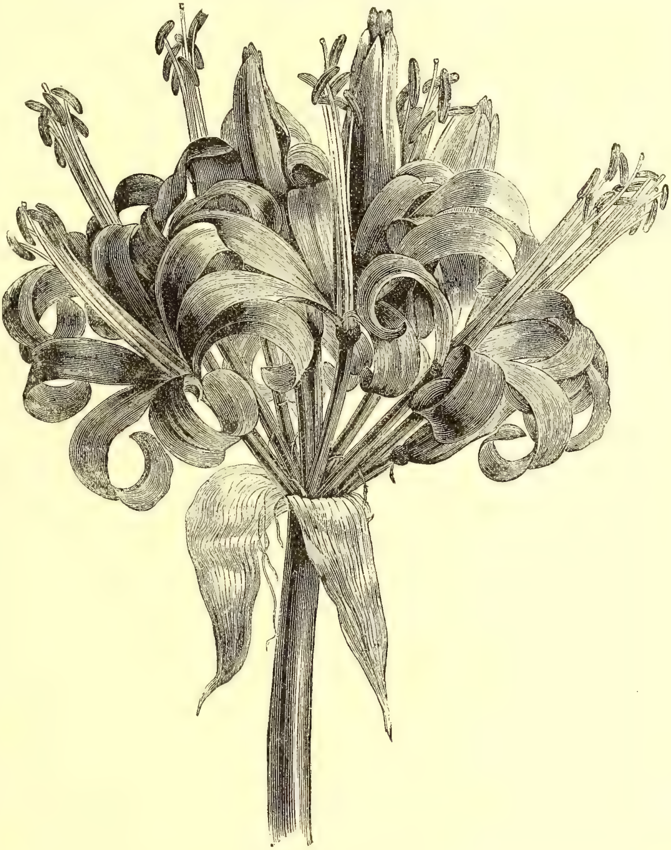
The culture of the Nerine is very simple, and the production of their gorgeous flowers is certain, provided the following details be borne in mind: In the first place, be it distinctly understood that the Nerines do not require and will not thrive in a warm, moist house; they are cold greenhouse plants, requiring a dry atmosphere all the year round.

Most species begin to flower in August, and continue to bloom throughout the autumn. During flowering and afterward, through winter and spring, they should be watered until the leaves, by turning yellow, show that the resting time has arrived. The remainder of the summer, while the plants are leafless, not one drop of water should be given until the flower-spikes appear, or in exceptional cases until the bulb, by its persisting in pushing up leaves at the flowering time, shows that it does not mean to bloom, in which case the plant must be watered and grown again until the next year. All the sun-light and air possible should be given to them at all times.

During the resting season, a shelf in a sunny part of a greenhouse or cold frame, where air can be freely admitted without letting in the rain, suits them admirably. These, like many other bulbs, often are ruined by being placed under a stage when not growing. It is important not to give water before the flower-spikes become visible, else the leaves will commence to grow, to the detriment of flowers, and the spikes may not appear at all.

Potting should be done as seldom as possible. The Nerines when repotted are generally thrown one year out of bloom. They thrive for years in the same pot, piling one bulb on another, and thus greatly increasing ing the number of spikes to each plant. The best soil for them is turfy yellow loam, without admixture of any kind; this, when the plants get well rooted into it, will last and keep them in good condition for years.

Nerine flexuosa, *N. elegans*, and a few other winter-blooming hybrids are, to a certain extent, exceptional to the above rules, as they do not require so long a rest, but may be watered in September, without regard to the condition of flower-spikes, as they bloom well when growing.



NERINE FOTHERGILLI.

Among the best kinds for the window-garden, in a temperature of from 40° to 50° are: *N. corusca*, dark scarlet; *N. flexuosa*, white pink line; *N. Fothergilli*, scarlet; *N. F. major*, vermilion; *N. humilis*, pink; *N. rosea*, dark rose; *N. sarniensis*, rosy crimson; *N. venusta*, crimson.

A CHEAP AND PERMANENT BOUQUET.

There are, says *Horticola*, in the *Rural New-Yorker*, a great many people who have no greenhouse from which a dish or stand of flowers may be gathered almost every day in the winter to ornament the parlor or sitting-room, and they may be glad to learn that there are some things that preserve their freshness and beauty for a long time, and cost but little to procure. One of the very best and prettiest of these is the leaf of *Cissus discolor*, the rich and varied coloring of which surpasses many kinds of flowers.

Take an ordinary soup-plate, or any similar thing that will hold water, and fill it with water or, better still, sand kept saturated with water. Now go to some florist and get leaves of Cissus discolor, to go around the edge of the plate. Pick out the prettiest colored leaves, and get the leaf stalks as long as possible. Insert the stalks in the sand around the edge of the plate, and you will be delighted with the charming effect. It will not be very long before the leaf stalks emit roots freely, and the leaves will retain their freshness and beauty for a long time in the sitting-room, no matter how hot or dry the air may be, provided only the sand be kept wet. I have kept them fully three months in this way.

Having usually plenty of flowers, I keep the center of the dish filled with them, renewing them as they fade. If you have no flowers for this purpose, get some variegated Wandering Jew, or *Tradescantia zebrina*, and dot over the dish. They will soon root and grow. Selaginella may be used in the same way for the center, and makes a good green ground in which to insert a Rose, a Carnation, or other choice flower that may happen along. All this can be done with very little trouble, and will make the center table, or even the dinner table, look very cheerful.

CALLAS.

Plants that have been kept dry during summer, intended for winter flowering, should be watered more frequently as soon as they start into growth; when growing vigorously, they may be kept standing in a saucer filled with water at all times. As a rule, Callas should be planted in comparatively small pots, as in large ones they are apt to produce too luxuriant foliage, to the detriment of flowers.

Lawn and Landscape.

CENTRAL PARK.

Central Park has grown directly out of the needs of the people for satisfactory breathing places within easy reach of the most crowded parts of New-York City. The original design of Central Park contemplated the most natural and convenient, artistic arrangement of the peculiar characteristics of the original wild territory on which it was located. The hills were literally to be exaggerated and the valleys to be made low. But all this did not consist in leaving things alone; for in many parts, and those that now appear the wildest, the landscape has been actually constructed with great labor out of rocks and earth-filling in such a way as to make the illusion complete of its being the original natural formation. In view of the rapidly increasing population of New-York City, we shall soon find no illustration, except Central Park, left on Manhattan Island of the original bowlder and rock formation of the region. Here, from a crowded city, we step at once into the most secluded and genuine wild-wood scenery. Hence, it has been the intention, never entirely carried out, to mask with planting the entire boundary wall of the park.

The general shape of Central Park is a narrow parallelogram, two and a half miles long by half a mile wide, with two large reservoirs of Croton water in the center and a generally ascending grade from north to south. Entrances from Sixth, Seventh, and Eighth Avenues open the park to the pedestrians and equestrians on the south end, and similar openings in the boundaries occur about every tenth street throughout the Fifth and Eighth Avenues on the east and west sides of the park. On the upper, or north end, entrances similar to those on the south end are contemplated, and in three cases completed.

The key, or main feature of Central Park — the only place that seems at all artificial in its structure — is the Mall and Terrace. The Mall is a promenade under several rows of American Elms,— a stately tree temple, where large crowds may easily gather and look over verdant meadow and tree-bordered lake, or wander about at will to the accompaniment of bands of music. Near by is the Casino, or restaurant; the Pergalo, or vine-covered arbor, on a terrace overlooking the Mall; and, farther off, the Dairy and Mineral Springs, all embowered in foliage, so as to subordinate architectural effects to the distinctly rural character of the park. At the end of the Mall, the end of a long and grand perspective, comes the Terrace, the most ornate architectural structure of the park, richly decorated in front with bright-colored shrubs and flowers. This might be termed the end, or wards of the key of the park; for, standing on this balcony, looking down and beyond the broad stair-ways over a magnificent fountain, there opens a picturesquely winding lake, above and beyond which rises mass on mass of the wild woods of the Ramble. In the management of these masses of woodland, rising up to the Belvidere tower on the edge of the reservoir, we find perhaps the most noteworthy art displayed, in securing distance, mystery, and the true landscape feeling to be found in the park. The Ramble itself is a perfect labyrinth of winding walks, charming nooks of shrubbery and rocks, entirely artificial, but apparently gathered together by the hand of Nature herself.

North of the reservoir, the distinctive feature is larger surfaces of meadow land and still wilder woodland nooks. There is a pool here, with heavily wooded banks, that seems to have been transported thither from some deep forest dell, instead of having been made upon the spot. The Harlem Mere, also, with wild, steep, and picturesquely wooded banks, is an attractive and considerable sheet of water, situated in the extreme upper part of the park. Carriage drives and foot paths wind about throughout these scenes, so as to exhibit their charms to the best advantage.

This survey of the principal features of Central Park is, I know, very brief, and scores of interesting points are necessarily left untouched; but if the reader will realize fully the idea that Central Park has been built up in the most artificial manner, after original types of unsullied nature in that region,— that it is, above all, a rock park, built upon the very lines that Nature has laid down herself, he will have advanced further toward comprehending the theory of the construction of Central Park than he could get from pages of description of mere details. Indeed, any adequate description of the vast plant collections could only be given in a largely extended treatise.

S. Parsons, Jr.

PRESERVING TREE SEEDS.

Reporting on some forest tree seeds, received by the Horticultural Society of Montreal from the Cape of Good Hope, and which had lost their vitality before their arrival, Colonel W. Rhodes says: "My experience with forest tree seeds is, so long as the natural conditions are observed,—that is, a cool, moist atmosphere, sufficiently low that Fungi cannot grow,—they may be easily preserved. This condition may be found every spring in northern climates; but when the seeds of trees are placed in a dry and hot atmosphere, their vitality rapidly passes away. My plan to preserve seeds of forest trees is to collect in the autumn, in fine weather, dry them thoroughly in bags placed on a veranda exposed to the air; then take a box, sow a layer of sand, a layer of seeds, and so on, until the box is full. I then place the box under a Fir-tree for shelter from too much snow or rain, and in the spring sow the sand and seeds together in a hot-bed, if the seeds are fine, or in the open ground if they are large. The principal danger is from late frosts killing the seeds just as the sprouts come over ground."

LABELING TREES IN PUBLIC GROUNDS.

During a recent visit to Philadelphia we noticed that nearly all the trees in the city parks had neat white labels attached to them, giving their botanical and English names. This is an example worthy of imitation in every park, for in no easier and more effective way could a knowledge of our principal forest and ornamental trees be imparted to the public.

The expense of this praiseworthy undertaking was, as we are informed, defrayed by a society organized for the purpose.

Rural Life.

ICE-HOUSES.

There are, in the construction of ice-houses, a few conditions which must be imperatively complied with, and without which success is impossible, no matter how expensive the structure may be. These, and the most important points to be observed in building ice-houses, are well described by a writer in the *Century*. He says:

If the soil on which the house is to stand is sandy, and has a gentle slope, there is nothing to do but to dig a cellar about two feet deep and fill it with stones. Cover the upper layers with smaller stones and sand. This will make the floor on which the ice is to rest. The water will escape easily through the sand and stones, and there will be no chance for currents of air to flow upward into the house. The tendency of the air in a badly made ice-house is always to flow through it. Therefore, while there must be drainage, there must be no inlets for air. If the soil is wet and not easily drained, the surface must be covered two feet thick with stones, and the house placed on top of this. If this is done, the sides of the stone-work must be made tight with mortar, to prevent the entrance of air. If provision must be made for carrying off the water, the pipe may be trapped to prevent the air from entering the pipe and thus getting into the house.

"A well-drained foundation having been prepared, a wooden sill must be laid, on which the walls are to rest. On this sill will rest the uprights. These may be simply planks eight inches wide and two inches thick. They may be placed at intervals on the sill, and held in place by a string-piece on top. On the outside of the uprights may be nailed boards with battens of clapboards. On the inside they are simply boarded up with cheap stuff. The whole aim is to make a hollow wall. The space between the outside and inside boarding must be filled solid with tan-bark, sawdust, or rough chaff of any kind. Upon the walls place a common pitch roof, boarded and battened or shingled. It must be rain-tight, and must not be air-tight. There should be an opening at the ends, or a hood or ventilator, to permit a free circulation of air through the upper part of the house. The door should have double walls filled with sawdust.

"The ice should be cut with a saw into regular blocks, so that they will pack snugly. Of course, the thicker the ice the better; but carefully packed ice will keep if only three inches thick, provided it is properly packed in freezing weather.

"When the filling begins, cover the entire floor with a layer of sawdust, tan-bark, chaff, or cut straw, six inches or a foot deep. A space a foot wide should be left between the walls of the house and the pile of ice. Where the ice is to be piled lay down a floor of straight-edged boards to cut off the air and keep the ice layers level. Cover this floor with a thick layer of sawdust, and as the ice is laid down fill in the space around the pile with sawdust and pack closely. This filling is to be added as the ice pile is built up. Over the top layer of ice put a liberal coating of sawdust, or whatever material has been used for the heat-excluding blanket.

Horticultural Societies.

NEW-YORK HORTICULTURAL SOCIETY.

The "Great Chrysanthemum Show," held on the 7th and 8th of November, has proved eminently successful in every respect, and has for several days been the leading topic of conversation among those interested in plants and flowers. It was, without exception, the best special floral exhibition ever held in this city, and has done much to stimulate a livelier interest, not only for this class of plants, but in floriculture generally.

The tasteful arrangement of the exhibits, and the seas of gorgeous colors, combined with the general decorations of the hall, produced a pleasing and really grand effect. Along the sides of the hall, near the walls, were placed potted plants, the tallest in the background, dwarf Pompones edging the walks, so as to form two monstrous flower-beds. Two wide tables near the center of the hall, and stretching through nearly its entire length, were loaded with cut flowers, while the platform at the far end was adorned with tall standards and other exquisitely trained specimens.

To those not familiar with the improved modern Chrysanthemums it would be difficult to convey an adequate idea of the brilliant colors and manifold forms and sizes represented in this genus. The blossoms vary in size from that of a Buttercup to a large Dahlia, mimicing in form almost any style of flowers possible in the Composite family, and to describe all the shades of colors, changing from pure white and yellow through all imaginable tints of rose, carmine, orange, lilac, purple, and maroon, would occupy many pages. Attempting to name the best varieties, we find ourselves at once confronted by the difficulty to choose among so much beauty; yet we will venture to name a few of those which appeared to us as possessing most merit.

In the *Japanese Section*, which evidently was most admired by the public generally, the most beautiful varieties were: *Golden Dragon*, large lemon-yellow, with long, drooping petals on the outside portions of the flowers; *Ceres*, a lovely flower of immense size, some flowers being over eight inches in diameter; *J. Delaux*, deep maroon crimson, grand color; *Striata perfecta*, flowers globular, petals long and pointed, and color light rose and pure white in lines; *Rubra striata*, deep orange ground color, with deep rosy-red cherry markings — one of the largest and most beautiful; *Admiration*, deep pink petals in plume-like masses; *Fantasie*, a most erratic shaped flower, difficult to describe, petals narrow and twisted, color dead white, with creamy blush shadings; *Comte de Germiny*, buff and orange, very large and distinct; *Grandiflorum*, deepest clear yellow, like a Maréchal Neil Rose in color; *M. Planchenau*, white and mauve pink, a lovely flower.

The *Chinese Chrysanthemums*, though not as popular as the Japanese, deserve not less admiration for their strictly symmetrical flowers. The best twelve cut flowers were: from *Dr. H. P. Walcott, Cambridge, Mass.*, *Antonelli*, brassy amber; *Barbara*, deep orange; *St. Patrick*, red purple; *Prince of Wales*, rich plum crimson; *Nil Desperandum*, rich red brown with gold tips; *Minnehaha*, a new seedling, pure white with delicate tips, — a beauty; *Empress of India*, large, pure white; *Golden Beverley*, deep yellow; *Fingal*, rosy purple; *Venus*, beautiful rose; *Mabel Ward*, deep primrose yellow, very finely shaped; *Duchess of Connaught*, silvery blush white.

Among the *Pompones*, best yellows were: *Golden Marthe*, *General Canrobert*, *Souvenir de Jersey*, and *Golden Crest*. Best whites: *Mdlle. Marthe*, *Snowdrop*, *Souvenir Melanie*. Dark reds: *Bob*, *Fanny*, *Meteor*, *Firefly*. Purple: *President*.

Although premiums were awarded for Chrysanthemums only, some other flowers found their way to the exhibition tables, relieving agreeably the sameness of the general effect. The most notable of these was a large basket of the celebrated *Charles Francis Bennett Rose*, a hybrid tea of remarkable beauty. In form it resembles the Niphetos, in color General Jacqueminot, and in fragrance the La France. A more perfect flower can hardly be imagined. This variety, which is expected to become the fashionable Rose of the future — at fabulous prices, of course — is owned by *Charles F. Evans, of Philadelphia*, who has secured the entire control of the stock for this country for the next four years, binding himself not to sell or dispose of any plants or buds during this period, but flowers only. For this privilege he has paid the originator seven hundred and fifty pounds sterling.

During the two days and evenings of the exhibition the hall was crowded with an admiring public, expressing freely their satisfaction with the beauty and general management of the exhibition. The thanks of the members of the Society, as well as the visitors, are due to Messrs. Hallock & Thorpe, who were by far the largest exhibitors, and who, although being awarded some thirty premiums, must have incurred great expense in the getting up of their magnificent collections; also, to President Sloan, through whose liberality and efforts the extra premiums were provided, as well as to the indefatigable Secretary Murkland, to whose excellent management a large share of the success of the Society and its exhibitions is due.

Encouraged by this grand success, another special exhibition will be held on December 4th, which will be devoted exclusively to floral designs, bouquets, and ornamental flower work generally. Over twelve hundred dollars will be awarded in premiums, a sum which should be sufficient inducement to bring out the best talent the city affords. Schedules and prize lists may be obtained by addressing Secretary J. Y. Murkland, 12 Cortlandt street, New-York.

THE AMERICAN POMOLOGICAL SOCIETY.

The rules adopted at the last meeting of the American Pomological Society, held in Philadelphia, relating to the naming and describing of new fruits, to competitive exhibits of fruits, to committees on nomenclature, together with the portion of the president's address referring to the names of fruits, have been published in a separate circular for distribution among kindred societies. It may be had by addressing the Secretary, Professor W. J. Beal, Lansing, Mich.

Miscellaneous.

IT PAYS.

It pays to wear a smiling face
  And laugh our troubles down;
For all our little trials wait
  Our laughter or our frown.
Beneath the magic of a smile
  Our doubts will fade away,
As melts the frost in early spring,
  Beneath the sunny ray.

It pays to make a worthy cause,
  By helping it, our own;
To give the current of our lives
  A true and noble tone.
It pays to comfort heavy hearts,
  Oppressed with dull despair,
And leave in sorrow-darkened lives
  One gleam of brightness there.

It pays to give a helping hand
  To eager, earnest youth;
To note, with all their waywardness,
  Their courage and their truth;
To strive, with sympathy and love,
  Their confidence to win;
It pays to open wide the heart
  And "let the sunshine in."

ANNA E. TREAT, *in Good Cheer.*

CHRISTMAS PRESENTS.

"Christmas comes but once a year,
And when it comes it brings good cheer."

So says the poet. That it may bring good cheer to every reader is the hearty wish of THE AMERICAN GARDEN. But

THOSE STOCKINGS?

Yes, they will hang by the chimney, as usual. Shall we tell you

HOW TO FILL THEM

for nothing? Send a few subscribers to THE AMERICAN GARDEN, and secure one of the valuable premiums we offer — a Watch, a pair of Ice or Roller Skates, Drawing Instruments, Tool Chests, Paints, etc., etc. See page 233.

AN EXTRA COLORED PLATE.

Our October offer to send a copy of our Lily plate to all subscribing then for 1884 so reduced our supply that we have no more to offer. But to *new* subscribers we want to say that we have a few colored plates of the Shaksperean Carnations—so greatly admired —and will, *when requested*, present one to each person subscribing to THE AMERICAN GARDEN for 1884, before January 1st, as *long as the stock lasts.* Send your order now, to be sure of receiving it.

With the January number another handsome colored plate will be presented to all subscribers for 1884.

A GREAT HELP.

to you in soliciting subscriptions for THE AMERICAN GARDEN is that you can promise to each member of a club the same premium that he would be entitled to if he sent us the money direct, personally; namely, any one of the seeds, plants, or bulbs offered on page 234, numbers A to U inclusive. He loses nothing by giving you his subscription, and at the same time helps you to secure some club premium for which you may be working.

INDEX.

A carefully prepared alphabetical Index of the AMERICAN GARDEN for 1883 will be mailed with the next number to all subscribers.

BOOKS AND PAMPHLETS RECEIVED.

Furman's Farming.—A series of letters on Intensive Farming, by the late Farish C. Furman. Published by *Home and Farm*, Louisville, Ky.

The Floral World is the title of a new monthly, published by our contributor, *H. Gillette*, at Highland Park, Ills. It is well filled with interesting matter pertaining to floriculture.

Trichinæ, microscopy, development, death, and their diagnosis, and treatment of Trichinosis, by *W. C. W. Glazier*, M. D. Published by the Illustrated Medical Journal Co., Detroit, Mich.

The Weather, by *S. S. Bassler*.—A practical guide to its changes, showing Signal Service System, and how to foretell local weather. Illustrated. Price, 25 cents. Published by Robert Clarke & Co., Cincinnati.

The South, published by *J. F. Riggs, Marshall, Texas*, is the name of a new monthly which introduces itself to the farmers of the South. It is a large quarto, ably edited, paper of twenty-four pages, full of life and energy, and earnestly devoted to the development of the agricultural and industrial resources of the South.

Shirley L. Holt, *Riverside, California*, age nine years, is the youngest editor in the world, and—as we should say of new seedling Strawberry—highly promising. He publishes the *Rising Sun*, a neat and bright little monthly devoted to the interests of boys and girls, which would do credit to many an editor old enough to vote. Success to you, brother Shirley!

Bulletin of the Iowa Agricultural College.—Experience with and investigations of North of Europe Fruits, Trees, and Shrubs. An immense amount of valuable information in regard to the practicability of the successful introduction of Russian fruits to the north-western States is here presented by Prof. J. L. Budd. In a future number we shall refer more fully to some of its most interesting parts.

Copp's U. S. Salary List and Civil Service Rules.—This recently issued book is prepared by Henry N. Copp, a lawyer of Washington, D. C. All the Government salaries are given from President Arthur's $50,000 to postmasters with $500, officials of the Treasury, Interior, War, and Navy Departments, Custom-houses, post offices, and fully 20,000 federal offices arranged by States and Territories. Specimen examination questions for admittance to the Civil Service throughout the country are added. The price of the book is only 35 cents.

Godey's Lady's Book for December closes the 107th volume of this magazine. It might with propriety be called a souvenir number as it exceeds in beauty anything that has heretofore been issued by the present management of this publication. The attractive illustrations make it eagerly sought on our book-table. A feature that will no doubt interest the ladies is a proposition made in the "Arm Chair" to allow subscribers in the future to make their own selection of a full-size cut-paper pattern from any fashion illustrated in the magazine each month; and as we count some thirty illustrations of fashions in this number it impresses us that the publishers have decided at any cost to captivate all of their lady readers.

Agriculture; Its Needs and Opportunities, an address by *Prof. W. J. Beal* before the American Association for the Advancement of Science. In this excellent paper, which we do not hesitate to pronounce one of the very best, most comprehensive, and yet condensed treatises on this subject ever printed in the English language, Prof. Beal shows that until within a comparatively recent period but very little of the best thought, even of civilized nations, has been devoted to subjects intended to advance agriculture, and that notwithstanding the large sums of money expended by our National and State governments in support of science, but a small sum, considering its importance, has been appropriated in the interest of agriculture. As one of the principal needs of agriculture, the author considers more trained minds to work in her interests, and as a step in this direction he suggests that the Society for the Promotion of Agricultural Science name a good man for Commissioner of Agriculture, thus freeing the position from politics. He calls the attention of those working for the advancement of science to the grand opportunities for making discoveries regarding the various plagues of our domestic animals, economical feeding, injurious and beneficial insects, bees, fish-breeding, the introduction of new grasses of value for meadows and pastures, irrigation, cross fertilization, injurious fungi, and other subjects. In conclusion, he points to the good work done by experiment stations, with the hope that their number may soon increase, and that all societies working in the interest of science may render valuable service by encouraging experiments in the various departments of agriculture.

CATALOGUES RECEIVED.

The Higganum Manufacturing Corporation.—Descriptive catalogue of Leading Tools for the Farm and Garden.

J. T. Lovett, *Little Silver, N. J.*, has secured the entire control and sale of the *Jessica Grape* throughout the United States. This is considered the earliest white Grape known.

Bush & Son & Meissner, *Bushberg, Mo.*—Illustrated descriptive catalogue of American Grape Vines. This handsome pamphlet of over one hundred and fifty pages is not, as its title might indicate, a mere nurseryman's price list. In fact, it contains no prices at all, but is a complete manual, treating of everything pertaining to the treatment and culture of Grapes. The descriptive list of varieties, up to the present time, is the most complete and reliable work of the kind ever published.

ANSWERS TO CORRESPONDENTS.

Raising Cabbages in Pots., *A. P., Union Springs, N. Y.*—There would be nothing gained by planting Cabbages in pots now, as the plants have to be kept merely dormant during winter. In our last March number a case of successful raising of Cabbages in pots is described.

Polish Wheat, *Ch. W. B., Pine Valley Mill, Utah.*—The grain sent is not a new variety, but a very, very old and distinct species of Wheat. The kernels being very large and handsome, and comparatively little known, it is every few years palmed off under a new name. Diamond Wheat, Wheat of Taos, Montana, and Nevada Rye are a few of the many names under which it has been known from time to time, but its proper name is *Polish Wheat*. For general culture it is of little value, as its yield is small and uncertain.

Amaryllis not Flowering, *Y. L. I., Mantua, O.*—Rest after blooming, or after the leaves have attained their full size is the essential point in Amaryllis culture. Water should be withheld gradually, and entirely so after the leaves are drying off. During summer and autumn the bulbs are to be kept entirely dormant. When wanted to bloom again they are re-potted in sandy loam and leaf mold, put in a warm place, and moderately watered. As soon as the leaves appear, and especially during the blooming season, water has to be given in abundance.

Heating a Small Plant House, *W. T. V. Z., New-York.*—A house 11x4 feet and eight feet high is too small to be warmed advantageously with ordinary greenhouse heaters. The great objection to connecting pipes with a kitchen boiler is that the heat cannot always be regulated according to the outside temperature. As in this case the greenhouse is connected with the dining-room by a large glass door a proper temperature can probably be maintained through the door, except in extremely cold weather, when a kerosene stove might be used without detriment to the plants.

Music Everywhere.—That wonderful musical instrument, the ORGANETTA, is advertised in this issue by the Mass. Organ Co. It is the ideal home instrument. You can dance to it; you can sing to it; a mere child can play it; it inculcates a love of music in old and young, and develops and cultivates the ear. The music is perfectly accurate, and the wonderful ORGANETTA will play any tune. At the price, $3.50, it is within the reach of all.

The American Agriculturist, advertised on another page, continues to be recognized as the leading agricultural monthly of the world. Every number contains nearly one hundred columns of original reading matter by the leading rural writers of the country and a large number of engravings by the best artists in these specialties. A progressive farmer would as soon think of farming without the use of a mowing machine, as do without the *American Agriculturist*.

Japanese Persimmons.—Our thanks are due to the *Hon. P. J. Berkmans*, Augusta, Ga., First Vice-president of the American Pomological Society, for several superb specimens of several varieties of this beautiful fruit which seems to thrive splendidly in the Southern States, but unfortunately is not hardy at the North. Mr. Berkmans has devoted many years' time and a great deal of attention to the cultivation and improvement of these fruits, and was, we believe, the first one who introduced them here.

Kieffer Pears.—We acknowledge the receipt of a few remarkably handsome specimens from *Judge Wm. Parry, Parry, N. J.* They were well ripened and of better quality than any Kieffers we have tasted before. Mr. P. says: "They are proving all that we have ever claimed for them for health, vigor, early bearing, and productiveness of handsome fruit which sells readily in market at four to five dollars per bushel." For canning we have found them remarkably well adapted, and for this purpose should prefer them to any other variety.

The Chickering Pianos are so favorably known throughout the world, have stood their ground so invariably against all competition, and are of such excellent quality and workmanship in every detail that the manufacturers feel warranted to guarantee every piano made and sold by them for five years. By referring to their advertisement on another page, it will be seen that over sixty-five thousand pianos have already been sold, and the elegant illustrations give a clear idea of the leading styles manufactured by *Chickering & Sons.*

The Marvelous Singing Doll.—This charming novelty is advertised in this issue by the Mass. Organ Co., and certainly nothing will appeal more quickly to the children than a Doll that will sing a song. The price is very reasonable, the Doll is a beautiful affair, and the ingenious singing attachment will delight the young and amuse the old. The little girl who finds a Webber Doll "in her stocking" at Christmas time will be the envy of all.

Dear Sir: The beautiful Singing Doll came safely, and far exceeded my expectation of what a Singing Doll could be. Our little folk were charmed with its beauty; but when it sang, their delight was unbounded. It will be to them a thing of beauty and a constant joy. Sincerely yours,

REV. J. B. ABBOTT.

Medford, Mass., Aug. 13, 1883.

IMPORTANT.

When you visit or leave New-York City, save Baggage Expressage and Carriage hire, and stop at the **Grand Union Hotel**, opposite Grand Central Depot.

600 elegant rooms, fitted up at a cost of one million dollars, reduced to $1.00 and upward per day. European Plan. Elevator. Restaurant supplied with the best. Horse cars, stages, and elevated railroad to all depots. Families can live better for less money at the Grand Union Hotel than at any other first-class hotel in the city.

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FROM THE NERVE-GIVING PRINCIPLES OF THE OX-BRAIN AND WHEAT GERM.

Vitalized Phosphites.—Restores the energy lost by nervousness, weakness, or indigestion; relieves lassitude and neuralgia; refreshes the nerves tired by worry, excitement, or excessive sensitiveness, and strengthens a failing memory. It aids wonderfully in the mental and bodily growth of infants and children. Under its use the teeth come easier, the bones grow better, the skin smoother, the brain acquires more readily and sleeps more sweetly. An ill-fed brain learns no lessons, and is peevish. It gives a more intellectual and happier childhood. Not a secret remedy; formula on every label. For sale by Druggists, or mail, $1. F. CROSBY & CO.

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THE AMERICAN GARDEN is certainly the best horticultural paper published in this country. Handsomely printed, beautifully illustrated, and intelligently edited, it is a treasure in the home of every lover of Fruits and Flowers. Each number is filled with practical information about every branch of gardening.—*Farmers' Home Journal.*

I think THE AMERICAN GARDEN is constantly improving, and to any one who has a garden it will prove a great help.—*L. D. Standhardt, Howe's Cave, N. Y.*

I find THE AMERICAN GARDEN very interesting and useful in my gardening pursuits here, and preserve the numbers bound for reference.—*R. W. N., Naples, Italy.*

I should like to receive *Clematis Coccinea* as premium, although THE GARDEN is enough of itself for the price asked.—*Mrs. A. Craft, St. Joseph, Mo.*

A paper of large attainments, and of great value to every one who is interested in Horticulture.—*A. B. Knapp, Providence, R.I.*

I like your paper so well that I am doing all I can for it.—*S. B. Palmer, Greeley, Colorado.*

It is a neat and valuable magazine.—*Prof. W. J. Beal, Lansing, Mich.*

I like your paper very much, and should not like to do without it.—*Mrs. Geo. Wagner, Dallas, Pa.*

I like THE AMERICAN GARDEN very much; it is sound and practical.—*F. H. James, Lancaster, N. Y.*

I have taken THE AMERICAN GARDEN for some time, and hope to for many years to come.—*Mrs. E. F. Sayre, Fulton, Wis.*

Contains just what the people want; practical and trustworthy; served in most palatable style.—*P. T. Quinn, Newark, N. J.*

I like the paper very much, and find it very instructive as well as interesting.—*Mrs. A. Warner, Pomfret, Conn.*

THE AMERICAN GARDEN is undoubtedly the best horticultural paper in the land. It is neat and handsomely gotten up, and full of *practical* and *reliable* information about everything pertaining to gardening. No one who cultivates a garden can afford to be without it.—*Pres. Henry E. Pellew, before the Bedford Farmers' Club.*

I prize THE AMERICAN GARDEN very much, and depend entirely on its instructions, which I have always found valuable and reliable. The bound volume is indispensable to me.—*C. W. Beach, Pine Valley, Utah.*

I like THE AMERICAN GARDEN more and more. The *Colored Plates* that come with it are worth the subscription price, to say nothing of the valuable information we get from each issue.—*R. M. Hitchcock, Naugatuck, Conn.*

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A DOLLAR an HOUR can easily be secured by *many* persons, LADIES included, (also by BOYS and GIRLS), thus: Show to friends and neighbors a specimen copy of the *American Garden*, its beauty and usefulness, and low cost. An hour's time should suffice to get 2, or 3, or 4 to take it. This will give you a dollar's worth, or MORE, of the valuable articles in the next 7 pages—articles better than their money cost. Why! it would *pay* many persons to continue this as a constant employment, and sell the premium articles received when not needed by themselves. N. B.—Any Premium club may contain subscribers from many Post-Offices.

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(The Garden is by far the *best paying* plot on the farm, and adds immensely to the comfort and healthfulness of the home Table. The AMERICAN GARDEN will add many dollars to the products of even the smallest plot.)

What Others Say. Attention is invited to the Border of this page, giving a few of the multitude of similar *voluntary* expressions, coming from those who are and have been its readers for years past. The Editors and Publishers pledge themselves to make THE AMERICAN GARDEN **increasingly valuable** by their most earnest efforts, by additional assistance, and by Liberal Outlay for *Illustrations*, gathering information, etc., etc.

TERMS—One Dollar a year, *Mailed Free* (This includes the valuable parcel of Plants, Seeds, etc. See next page). Single number, post-paid, 10 cents.

Address the Publishers, **B. K. BLISS & SONS,**
34 Barclay Street, New-York.

Many thanks for the beautiful colored plate I have received with my AMERICAN GARDEN, which is the most attractive magazine of the many I have subscribed for.—*F. A. Mead, Leesburg, Va.*

THE AMERICAN GARDEN is of great value for both vegetable and flower garden. I would not do without it for twice its cost.—*Mrs. C. A. Bell, Hamilton, Kansas.*

THE AMERICAN GARDEN is a beautiful illustrated horticultural journal, invaluable for the market garden, the kitchen garden, the orchard, the flower garden and conservatory. The present number excels all its predecessors in beauty and excellence, and contains, as an unusual attraction, a handsome colored plate. —*Farmers' Review.*

It has given me so much pleasure and instruction, I shall be glad to renew my subscription for next year.—*Mrs. W. B. Blair, Lexington, Va.*

I like THE AMERICAN GARDEN so much that I wish a copy for myself and one for my gardener, to whom it is a valuable guide.—*M. H. B., Clinton, Mass.*

THE AMERICAN GARDEN is a very valuable library sheet, as it contains useful information for the Farm, Garden and Nursery.—*John Dell, Dubuque, Iowa.*

I am much pleased with THE GARDEN, and would not do without it if it cost twice the money.—*M. L. Higgins, Minneapolis, Minn.*

Without exception, the best paper devoted to general horticulture.—*C. L. Allen, Brattleboro, Va.*

THE AMERICAN GARDEN is a real treasure.—*Hon. M. P. Wilder, Dorchester, Mass.*

An excellent journal, which should be found in every rural home.—*Prof. W. R. Lazenby, Columbus, Ohio.*

I want THE GARDEN anyway. I think it is worth the money without any premium.—*E. L. Childs, Crete, Neb.*

The more I read it, the more it is appreciated by me, and I hope to send you a name now and then. —*Mrs. S. G. Mason, Wylliesburg, Va.*

The paper is a gem, and its monthly appearance during our long winters is like a breath of perfume-laden June air.—*George Lewis, Potsdam, N. Y.*

I am well pleased with THE AMERICAN GARDEN. Many an article in it is worth all the paper costs for a year.—*C. C. Stephen, Batavia, Ills.*

THE AMERICAN GARDEN, an illustrated journal devoted to the gardening interests of America, is a valuable publication, and shows ability in its editorial columns, and contains many fine illustrations. Such a journal cannot fail to prove both interesting and beneficial to all who devote any attention to gardening.—*Williamsport Gazette.*

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While we offer a choice of many fine things to those who take time and trouble to aid the publishers in extending the circulation of THE AMER. GARDEN, as a recognition of their kind efforts and as a Reward or pay for such aid; and while we intend to and *shall make* THE AMERICAN GARDEN worth to every reader many times its small cost, yet we desire to give a friendly recognition of some direct kind to *each one* of our readers as far as possible; and having unusual facilities for securing valuable seeds, etc., desirable for use or for trial, we offer to every subscriber to THE AMERICAN GARDEN his or her own choice of any *one* of the Seed, Plant, or Bulb parcels named below.

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Directions for culture are given with each package.

A. *Wild Garden Seeds.*—A half-ounce packet. This novelty in flower gardening, which was first introduced as an AMERICAN GARDEN *premium*, continues to be a general favorite; and being in greater demand than ever, we retain it among our premiums. The present selection contains over 100 varieties of choice flower seeds, which, in single packets, could not be bought under $5.00.

B. *Single Dahlias.*—A packet of seeds carefully selected from over 100 varieties, comprising all the most brilliant and decided colors. If sown in early spring, in pots in the house or in the hot bed, flowering plants may be had by mid-summer.

C. *German Pansies.*—A packet of fifty seeds of these lovely flowers, of which one can never get tired. The seeds here offered are from the best and choicest collection to be found in Germany.

D. *Asters, Choicest Mixed*, with the most desirable and valued varieties of the best German and French strains, are represented in these packets, which are vastly superior to what is generally known as Mixed Asters.

E. *Everlasting Flowers.*—A mixed packet of 12 distinct varieties. This class of flowers is constantly increasing in favor; and for winter bouquets and decorations generally nothing is more treasured. All are annuals of easy culture.

F. *Ornamental Grasses.*—A mixed packet of the twelve best varieties. As an accompaniment of flowers, fresh or dried, in bouquets or vases, nothing can be more appropriate and graceful than sprays of ornamental grasses.

VEGETABLE AND FARM SEEDS.

G. *Pea, Bliss' Ever-bearing.*—A sample packet of this extraordinary new wrinkled Pea, which is now first offered to the public. For large yield, excellent quality, and continuancy of bearing, it has no equal.

H. *Cauliflower, Sea-foam.*—One packet. This valuable new variety combines more desirable qualities than any of the older kinds; in size and beauty, and especially in reliability of heading, it excels all others.

I. *Watermelon, American Belle.*—One packet, now first introduced, and of great value for home use as well as for market. It is very large, early, and of delicious quality.

J. *Oats, Black Champion.*—A sample package. These Oats were selected from a number of varieties received from Europe, and appear to be of great promise. Selected heads have averaged one hundred and sixty-nine grains. The roots tiller more abundantly than those of any other variety, so that half the quantity of seed usually sown per acre is sufficient.

K. *Barley, Imperial.*—A sample packet. All reports about this new variety speak in highest terms of its excellence. In yield and quality alike, it promises to be a valuable acquisition.

L. *Potato, Tremont.*—One tuber. A medium early variety of excellent quality; not before offered for sale.

M. *Potato, Iroquois.*—One tuber. A large, handsome variety of good quality, large yield, and superior keeping quality; now first offered. Both varieties received *First Class Certificates of Merit* by the London Royal Horticultural Society at the recent great International Potato Exhibition.

PLANTS AND BULBS.

N. *Helianthus multiflorus, fl. plen.* Golden Sunflower.—A hardy perennial plant of great beauty, grows about four feet high and bears a profusion of rich golden yellow flowers of the size of Dahlias.

O. *Polyantha Rose, Mad. Cecile Brunner*, the Fairy Rose.—This is an entirely new class of Roses of dwarf habit, with bright flowers of exquisite fragrance. They are hardy and very effective.

P. "*Curiosity*," a new early flowering *Pompon Chrysanthemum*, with brilliant, deep bright crimson flowers tipped with golden yellow. This choice variety just introduced here is not for sale, but is offered only as a present to our subscribers.

Q. *Clematis coccinea* (Scarlet Clematis).—One of the most desirable climbers for covering verandas, trellises, arbors, screens, etc., as it grows from eight to ten feet in one season. Its coral red flowers are produced in great profusion.

R. *Eulalia Japonica Zebrina.*—A remarkably handsome variegated grass, perfectly hardy, growing to a height of six to seven feet, and producing tall, elegant plumes, highly ornamental for vases.

S. *Lilium Wallacei*, recently introduced from Japan. Flowers four to six inches in diameter, of clear buff-orange color, distinctly spotted with numerous black dots. The bulb is small but perfectly hardy.

T. *Amaryllis Treatei*, the Fairy Lily.—A delicate, pure white flower, two to three inches in diameter, borne on slender stems 5 to 6 inches high. Suitable for the garden as well as the house.

U. *Strawberry, the Prince of Berries.*—3 plants—For complete description and life-size illustration of this really superb Strawberry, see AMERICAN GARDEN, August number.

PREMIUMS

To those securing and sending Subscribers to American Garden.

The publishers of THE AMERICAN GARDEN offer a choice from any of the valuable articles described in the following pages, to all who will send the number of subscriptions named with each article. Everything described is **first-class** in every way, and **CAN BE FULLY RELIED UPON.** Great care has been exercised to offer none but the *best* and none but those possessing **GREAT MERIT.**

Almost any one can in a few hours gather names enough to get a valuable article that may be desired or needed **WITHOUT EXPENSE.**

N. B.—The canvasser for a premium article can offer each one who joins his club, at $1.00 each, his or her own choice from any of the articles named in the preceding column, which is in addition to the previous offer to the canvasser.

☞ Send along the names with subscription money as fast as you collect them, and take all the time you want to get up your full list. The names will be credited to the sender, and the premium can be had whenever desired.

(Premiums Nos. 1 and 2 in next columns.)

No. 3.

Valuable Seeds.—Any one sending subscriptions to THE AMER. GARDEN at $1.00 a year, can select, from the previous columns, one premium for himself or herself in addition to the one offered to the subscriber; or, in lieu thereof, send for the "Hand-book for the Farm and Garden" (to B. K. Bliss & Son, 34 Barclay street, New York), and select 25 cents' worth of any seeds therein named for each subscriber sent in.

No. 4.—Those sending 4, 5 or 6 subscribers may select 30 *cents*' worth of seeds for *each*.

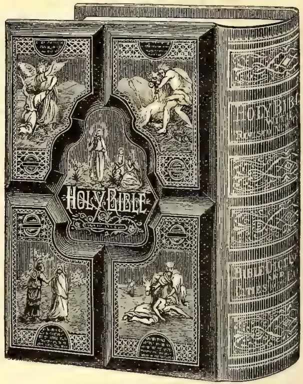
No. 5.—Those sending 7, 8 or 9 subscriptions may select 35 *cents*' worth of seeds for *each*.

No. 6.—Those sending 10, 11 or 12 subscriptions may select 40 *cents*' worth of seeds for *each*.

No. 7.—Those sending 13, 14 or 15 subscriptions may select 45 *cents*' worth of seeds for *each*.

No. 8.—Those sending 16 or more subscriptions may select 50 *cents*' worth of seeds for *each*.

N. B.—The Hand-book above named is a handsome, finely *Illustrated Catalogue* of 150 pages octavo, giving much information about seeds, treatment and culture of flowers, plants, etc. It can be had by mail, post-paid, for six cents.



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A MAGNIFICENT VOLUME, containing not only the Sacred Text, but a vast amount of other most desirable information, etc., pertaining to it, as noted below.

A Splendid Volume for your Own Table, also for a **MARRIAGE GIFT,** *a present to a* **SON** *or* **DAUGHTER,** *to a Friend, to a* **PASTOR,** *to a* **SUPERINTENDENT** *or* **TEACHER** *in a SUNDAY-SCHOOL or other SCHOOL.*

At a very low cost. Also **WITHOUT COST.**

The Engraving herewith presents but a faint idea of the *real* Beauty and Magnificent *external* appearance of the volume above referred to, with its deep panels, its substantial French Morocco Binding, its superior gilding, both of cover and leaf edges. It is over a foot in length, nearly a foot in width, and weighs 8 pounds.

Inside the covers you will find **1700 pages,** including the whole Bible in clear, open, large type, from new electric plates, on handsome paper of fine quality, illustrated with over **2000 Engravings,** including 30 full-page Steel Line (26 of Doré's); and 4 superb Colored ones of Tabernacle, etc. Engravings illustrate the cities of the Bible and various scenes and events in the Sacred Text; the Lord's Prayer and Ten Commandments illuminated; Elegant Marriage Certificate; several pages of Family Record; 10 spaces for portraits in photo-album leaves. Also full marginal references on every page (100,000).

Also 125 other Valuable Features, far too numerous to describe here, but including 4 Elegant, New Colored Maps of the Geography and Topography and a Bird's-Eye View of the Holy Land; Photographic Views of Palestine; Smith's Bible Dictionary; Brown's Concordance; Illustrated Pronouncing Dictionary; Harmony of the Four Gospels; Chromo-Genealogical Map from Adam to A. D. 300; and Chronology from Adam to Christ; History of the Time between the Old and New Testaments; the Twelve Apostles; Coins, Money, and Weights of the Bible; The Religions of the World; Engraving of Rome as Paul saw it; the Arch of Titus; the Colosseum, with descriptions, etc., etc., etc.

The recent great fall in price of good printing paper enables us to supply the above volume at half of former cost.

For $11.50, we will supply the whole complete. We will Present the same for 19 subscriptions to THE AMER. GARDEN, at $1.00 each, (which any one should gather in a day or two).

No. 2. For $10.50, a similar **Magnificent Bible,** with most of the features and contents of the above (No. 1), and similar binding of different pattern, with raised panels, sides, etc., or we will PRESENT it for 14 subscriptions.

☞ To any Purchaser of either Bible we will allow $1.00 off the price for each 3 subscriptions to THE AMER. GARDEN.

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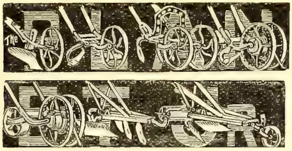
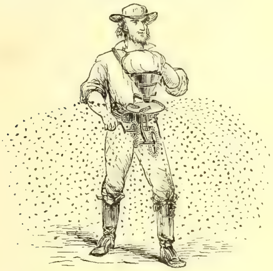


PLANET JR. GARDEN IMPLEMENTS.

These everywhere approved Implements, singly and combined, are admirable contrivances for all garden operations and some field ones, for seed sowing, hand or wheel hoeing, cultivating, etc., etc. We will supply (No. 9) the Planet Jr., *Combined Double-Wheel Hoe, Cultivator, and Plow*, for $10.00; or PRESENT it for 20 subscriptions to AMER. GARDEN at $1.00 each; or (No. 10) the *Planet Jr. Seed Drill* for $12.00, or present it for 24 subscriptions; or (No. 11) the *Planet Jr. Seed Drill and Cultivator Combined* (price $15.00) for 29 subscriptions at $1.00 each.

☞ Full descriptions sent when desired.



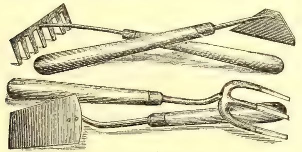
12

THE BEST BROADCAST SEED-SOWER.

An expert, on being complimented for his skill in casting seed evenly over the ground, replied that "it came from steady nerves, a quick eye, and over *forty years of practice*, a hundred acres a year, and that many hundreds of acres were poorly sown at first." Very few can ever sow from the hand well; but any man or boy who can turn a crank steadily and walk moderately straight can, with the **Philadelphia Seed-Sower,** scatter the seed far more uniformly than the most experienced expert living can throw it from his hand. Such an implement saves seed, increases the crop by covering every part of the ground, without over-crowding anywhere. It saves much time, as it sows four to six acres an hour. Multitudes of practical farmers testify to this from their own experience with it. (Their names and opinions will be sent to any one desiring them.) Gauge Plates with each implement adapt it to various Field grains. It will be supplied for $6, and sent well packed anywhere. It will be PRESENTED to any one sending eleven subscribers to THE AMER. GARDEN at $1.00 each.

NICE GARDEN TOOLS FOR LADIES AND CHILDREN.

Handy ones, and cheap as well as good,—not cast-iron toys, but of the best cast-steel, with good extra polished hard-wood handles. These are all for actual use among the flowers and vegetables, raking weeds, stirring the soil, etc. The four Implements shown in the engraving, each nearly a foot in length, are put up in a Box, and can be sent anywhere, even to the remotest Territory, post-paid, for $1.50 (price, $1.25, if at the office). A set **PRESENTED,** with carriage prepaid, for three subscribers to THE AMER. GARDEN at $1.00 each. Two sets for five subscribers.



13

14

A FINE LIBRARY FOR FARMERS—EASILY OBTAINED FREE.

A few good books pay a hundred per cent. on their cost in direct information and for continual reference. The following is a good selection for a small Library to start with:

Allen's New American Farm Book	$2.50
Henderson's Gardening for Profit	1.50
Fuller's Small Fruit Culture (New Edition)	1.50
Henderson's Practical Floriculture	1.50
Keeping One Cow (or many)	1.00
	$8.00

The above Five Good Books, well and neatly bound, we will supply and send anywhere, post-paid, for $8.00, or we will PRESENT the whole, post-paid for 17 subscriptions to AMER. GARDEN at $1.00 each (easily collected in any place).

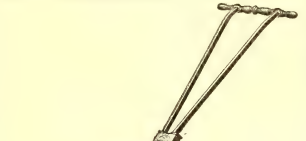
N. B. We will supply any one of the above books, post-paid, for the price named; or, PRESENT any one or more of them, post-paid, at the rate of $1.00 worth of books for 4 subscriptions.

☞ Any other good Agricultural or Horticultural Books desired may be substituted or added to the above list, at the same proportional rates.

15

BEAUTY, USEFULNESS, AND ECONOMY COMBINED. …… FOR LADIES.

A SPLENDID VOLUME, highly ornamental on any table, in any home, and exceedingly interesting, yet costing but little as compared with other similar books, is Mrs. Turner's **FLORAL KINGDOM.** This is a most Beautiful Book, in green, black, and full gilt binding, in size 11 x 9 inches, containing 444 pages, on very heavy tinted paper, the pages printed with fine red-line borders, and in large, clear type. Beginning each page is an exquisite 3-inch Initial Letter. Each of 326 pages is devoted to a Flower, giving its Generic and Specific name, its Order, a description of it, its Language, etc., with several choice Poetic quotations concerning it. A hundred pages of this work are devoted to "PRACTICAL FLORICULTURE," with full directions for cultivating flowers, etc. Two pages contain a fac-simile original Poem, by WM. CULLEN BRYANT, and his Introductory Letter about the book,—both interesting Souvenirs. We are happy to be able to supply this Elegant Work for $4.00, sending it post-paid. Or we will PRESENT a copy, post-paid, in return for 8 subscriptions to THE AMER. GARDEN at $1.00 each.

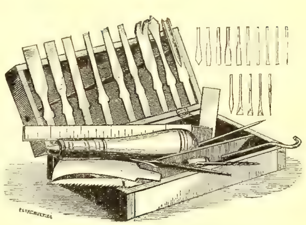


16

A FIRST-RATE LAWN MOWER

PAYS on a very small plot. One that will do its work WELL and EASILY, and keep in order and last a dozen years, will cost only a dollar or so a year for interest and wear. Such an one is the **Excelsior Lawn Mower,** which runs light, cuts neatly, has no noisy ratchet, is quickly adjusted to cut any height, has safety guard to protect trees and shrubbery; has a self-cleaning gear, and cannot clog—an **A1** machine in *every way*. We will supply one cutting twelve inches wide for $15; or one cutting fourteen inches for $17; sixteen-inch cut for $19, eighteen-inch cut for $21.

We will **Present** the fourteen-inch cut, the best for general use, for twenty-four subscribers to AMER. GARDEN at $1 each, or any other size for a proportionate number of subscribers. (To purchasers one dollar off the price of any size for each three subscriptions to AMER. GARDEN.)



17

THE GREATEST NUMBER OF LARGE-SIZE, CONVENIENT TOOLS, IN THE SMALLEST SPACE YOU EVER SAW.

Yes, and for the **Smallest Cost!** Just think of a neat Walnut Box, with strong dove-tailed corners and sliding cover, only 3½ inches wide, 2 inches high, and under 7 inches long, and yet containing *Three Dozen* useful Tools and Implements, of which over a dozen are the full size used by carpenters, such as chisels, gouge, screw-drivers, etc., which have steel blades 4 to 5 inches long. All the Tools, as each is wanted, are fastened firmly into a full-size Patent Adjustable *Handle* by a turn of a strong metal shank. The Box contains Chisels, Gouge, Screw-drivers, 6-inch Saw and boxwood Rule, Scratch Awl, Pruning Knife (full size), Gimlet ditto, large Tack-lifter, a small steel and ebony Square, and twenty other smaller tools, such as Brad-awls, Hole-makers and enlargers generally, Screw-drivers, etc., etc.,—a real "Multum in Parvo,"—ALL of which fit the same good hard-wood and metal handle. The whole must be seen and *handled* to be appreciated. The Tools are good Cast-Steel, not the trashy stuff, of malleable iron, etc., so often sold. THIS SHOULD BE IN EVERY HOUSE.

The above *Family Tool Box*, complete, we will supply for $4.60, and send it, carriage prepaid, to the nearest or remotest point in the United States or Territories. We will **PRESENT** it for 9 subscribers to THE AMER. GARDEN at $1.00 each; or send it, carriage prepaid, for 10 subscriptions.

(To a purchaser, $1.00 reduction from the price will be made for each 4 subscriptions sent us.)

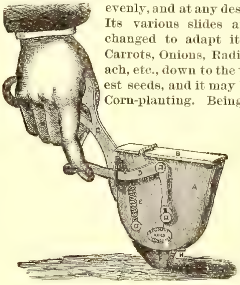
18

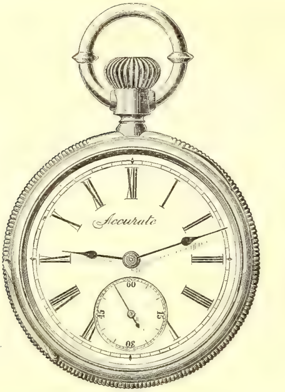
"TOOL BOX JUNIOR."—A Box of Tools similar to above (6½ x 2½ x 2 inches) contains the larger-size Saw, 1 Chisel (⅜ inch), Gouge, Screw driver, Counter-sink, Tack-lifter, Pruning Blade, Rule, and Gimlet, with the Adjustable Handle, and the 20 little Tools. This we supply for $2.25, carriage prepaid anywhere. Or we will PRESENT it, carriage prepaid, for 5 subscriptions to THE AMER. GARDEN at $1.00 each.

19

RANDOLPH'S HAND SEED-SOWER.

This is a very convenient, cheap, effective implement for sowing all kinds of Garden Seeds evenly, and at any desired depth. Its various slides are quickly changed to adapt it to Beets, Carrots, Onions, Radishes, Spinach, etc., down to the very smallest seeds, and it may be used for Corn-planting. Being made of metal, it is durable, and so simple that it cannot readily get out of repair. It will be sent anywhere in the United States by mail, post-paid, for $1.50. It will be PRESENTED at the office for three subscriptions to AMER. GARDEN at $1.00 each, or forwarded anywhere, postage prepaid, for 2 subscriptions.





20

A BRIDEGROOM BADLY DISAPPOINTED.

A couple were to be married, and at the appointed hour a hundred invited guests assembled at the bride's home, where extensive preparations had been made. The bridegroom, who lived one hundred and fifty miles away, having important business on hand, waited for the last through train.

The day before, he sent his watch to the station and had it set to correct railroad time. He also "timed" it by the sun's rising, and it appeared all right. Starting with plenty of time, by his watch, he arrived at the Station just to see the cars move off without him. His watch had "gone back on him" six minutes! The telegraph line happened to be out of order at one point, so that no explanation could go through. In anger he dashed his watch to pieces on the floor, but that did not help matters...... The guests, with the disappointed bride, waited in vain for any word from the expected bridegroom, and finally ate the feast in silence and departed...... The disappointment and chagrin resulted finally in the canceling of the engagement in this case. Many other instances similar to the above have occurred...... Millions of dollars would not cover the losses that occur every year through failures to keep engagements, and other delays and troubles, very often due to inaccurate watches and clocks. Several disastrous railway accidents happen almost every year from the same cause.

Six Watch Items for You.

1. *Every Man, most Ladies, and even every Boy, need a* **Good Watch** *that can be depended upon.*

2. *Very few can afford trustworthy Gold or Silver watches at the high prices they have hitherto cost.*

3. *There are now some very good watches made at reasonable prices, which are pretty reliable if you can get the right ones;* **but,**

4. *Not one in ten of those which are claimed to be of this kind are really trustworthy. There is more deception and swindling in watches than in almost anything else.*

5. *The* **Works** *("the movements") of a Watch are the important part, and, if these are right, it will keep just as good time and last as long, whether in a nickel case or in a silver or gold one. A Silver case is just as good as a Gold one, and will last quite as long.*

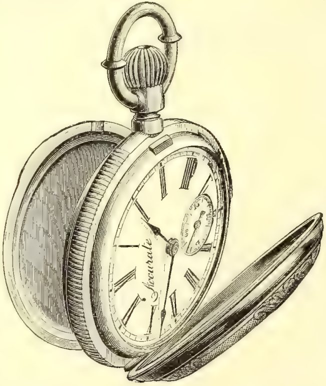
6. *Nine-tenths of all the troubles with good watches come from* **dust** *that gets into the delicate wheelwork during the opening for winding and through the key-hole. The inside of every key collects more or less dust, which, though invisible to the eye, is large enough to injure the works, into which it slips in winding. It is hardly possible to wind a watch a year* (365 *times) without the works being more or less soiled. Therefore, the* **Stem Winders** *and* **Setters** *are of great importance, as with these a watch need seldom be opened, but will go on, for many years, without cleaning. The saving in this will pay the interest on even a very costly watch.*

How to Get A Good, Cheap, Reliable Watch.

The publishers of THE AMERICAN GARDEN are happy to announce to their friends that they have succeeded in securing a most **Valuable Watch,** which they can recommend with the *greatest confidence*, and which they can supply at a very **low rate;** *also*, that they can put it in the power of several thousands of people to **obtain** this most valuable Watch **WITHOUT COST.**

Description.—The engraving (Fig. 20) shows the size and general appearance of the Watch, which is very tasteful. The Case is pure *coin silver*, solid and substantial; the Face is clear white, easily seen by day or night, and is covered with a thick, flat, bevel-edged, clear **Crystal,** so strong as to endure heavy pressure. It is a *Stem Winder* and *Stem Setter*. (See importance of this above.) The **Works** are of very **superior excellence,** every way equal to many Gold Watches sold for $100 to $150. The pinions run in **13 Jewels.** It has cut expansion balance (to counteract heat and cold), and Nickeled Movements; in short, it is so substantially made as to wear a life-time, and is abundantly accurate for all ordinary purposes of Business men, Professional men etc., etc. The Works are specially made for us, at one of the best Establishments in Switzerland, where long practice, cheap labor, and the most improved machinery enable them to supply such watches at a very low rate, and our special arrangements secure them to us at very near the cost of making.

We therefore offer to supply one of these splendid and exceedingly desirable Watches to any subscriber to AMERICAN GARDEN for the low price of $15, and to send it to any part of the United States or Territories, by registered mail, safely packed, postage prepaid.—**Also sent Free.** For the present, we will **Present** one of these most desirable Watches to any one forwarding twenty-eight subscribers to THE AMERICAN GARDEN at $1 a year each. For less than twenty-eight names, $1 will be deducted from the price of the Watch for each three subscribers.



21

Same Watch in Hunting Case.

The same Watch as No. 20 every way, but with the solid silver cap, or "Hunting Case" (as shown in Fig. 21), will be supplied in the same way as No. 20 for $1 *extra*, or for two more Subscribers.

22

AN EXCELLENT $10 WATCH.

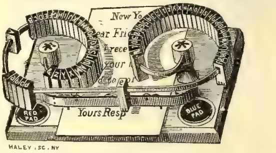
We have a valuable watch, in outward appearance very much like No. 20, and with very *excellent works*. We have proved them by actual use. In fact, ours has scarcely varied from a good $150 gold Watch, carried along with it. We can strongly recommend it to those desiring a reliable watch, and cannot well afford the $15 or $16 solid silver case. The chief difference is that this case is heavy *Nickel* plated, which looks almost exactly like silver and tarnishes much less easily than silver. We will send one anywhere in the United States, carriage prepaid, for $10; or we will present one for nineteen subscribers to THE AMER. GARDEN at $1 each.

N. B., N. B., N. B.—To the purchasers of any of the above three Watches we will allow $1 from the price for each three subscribers sent us.

23

PRINTING THAT ANYBODY CAN DO.

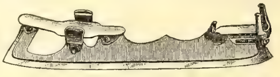
From the child too young to hold a pen to those too aged to see to write well. No printing press needed, and no "cases," "chases," "ink rollers," "pads," etc., etc. All that is needed is combined in a single implement that *any one*, even a child, can easily understand and use without any apprenticeship, and after a few hours' practice work quite rapidly and neatly. It can be brought out in a moment, set on any table or stand, and be worked at once, with no litter about, or soiling of the fingers, and the whole costs but a *trifle.* **The Domestic Type Writer** is a most ingenious arrangement of the alphabet, in both capital and small letters, and figures, so placed on a Coiled Steel Spring that any letter desired is quickly brought to the right spot (being inked on its way), and printed very clearly. The types attached to the bottom of the labelled blocks are of the *best rubber*, tough, but so elastic that they print on any paper far better than metal type, and even print on wood; and they are *very durable.* Cards, Labels, Envelopes, and Letters can be printed. While useful to all grown-up people, and especially to those writing a poor hand, the Domestic Type Writer is of *great interest* and value to **Young Children**; for before they can read or write, they can print letters, and at the same time learn to arrange them in words. Even for a lasting amusement they are better than any toy ever invented. For $1.50 we will send anywhere, post-paid, one of these instructive and valuable Instruments all complete, with ink enough of two separate colors (blue and red) to last many months. We will **present** one and deliver it free, for 4 subscribers to THE AMER. GARDEN at $1 a year, or two Type Writers for 7 subscriptions.



24

THOSE TROUBLESOME SKATES NO MORE!

EVERY BOY, almost every Man, especially a heavy one, knows the trouble of keeping Skate Straps tight enough, without stopping free circulation of the blood in the feet to keep them warm. The heel would slip off in spite of you, even when you carried round a heavy metal plate fixed on its bottom. All such troubles are avoided in the **N. Y. Club Skate.** You clap it on the sole, turn the double-working screw, and the front is fast. With the same key turn another screw behind, and three flanged Clamps *firmly* grasp the boot heel in its front and on both sides of the rear. The whole is done in a moment and away you go,—with the skates immovably fixed on the soles, and the feet warm by the freely circulating blood. These fine Skates have excellent Steel Runners and strong Frames. We will send you a pair of them to any place in the United States, carriage prepaid, for $1.60. *Better still:* send five subscribers to THE AMER. GARDEN at $1. each (it is worth $10 a year to anybody), and we will PRESENT you with a Pair of these Splendid Skates and deliver them as above. For nine subscribers we will give you two pairs.

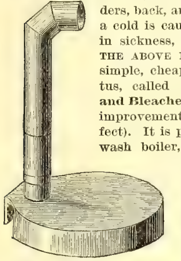


N. B.—Send a paper, cut just the size of your boot sole, and we will select the right size skates.

25 26

WASHING MADE VERY EASY,

With a great saving of clothes, too! The HOW and WHY: In ordinary washing, we use soap and hot water to *dissolve* out and remove grease and other matters, including the oily secretions given off from the skin into the clothing. Water boiling rapidly,—if the washer's hands could bear it,—would dissolve all these a thousand times better than cold, or even pretty warm, water. But we must rub, pound, squeeze, etc., to keep the water frequently passing through the fabrics, and this breaks the fibers, and, without great care, seriously injures, if it does not ruin laces and other delicate materials. This work is hard on the hands, shoulders, back, and chest, and many a cold is caught thus, resulting in sickness, if not death. ALL THE ABOVE IS SAVED by a very simple, cheap, effective apparatus, called **Robbin's Washer and Bleacher** (with recent great improvements making it perfect). It is put into an ordinary wash boiler, or any kettle, or iron pot even, large enough to hold the clothes. Water, clothes, and soap are put in. (Much less soap than is commonly used is needed, as the steam-hot water does some work of soap.) When set on the stove, this apparatus causes the hot water, ten gallons a minute, to circulate round and round all *through* the clothes, and speedily dissolves everything you want out; indeed, bleaches them a good deal, without any caustic bleaching powders to harm the fabrics. **No. 25** is suitable for any vessel holding ten to fifteen gallons, and for small families. **No. 26**, for twenty to thirty gallons, for larger families and small hotels. We will supply **No. 25** for $3.50; or PRESENT it for 8 subscribers to AMER. GARDEN. **No. 26** for $5.00; or PRESENT it for 12 subscribers. (To a purchaser, $1.00 deducted from the price for each 3 subscribers sent us.)



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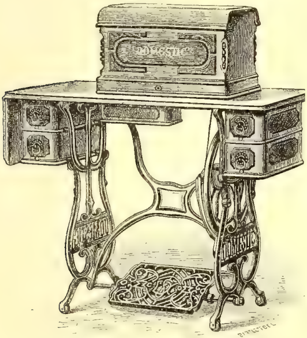


WOMAN'S GREAT HEALTH AND LIFE SAVER,

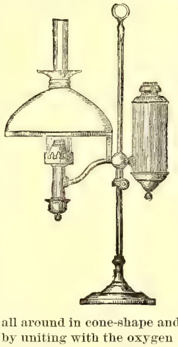
A First-Rate Sewing Machine,

That makes twenty perfect stitches while the hand could make one, that saves the eyes, the compressing of the lungs, the night hours for sleep, and exercises the lower as well as the upper limbs, is now indispensable. Its cost for interest and wear is less per week than two hours' wages for a seamstress. The **DOMESTIC SEWING MACHINE No. 3** is a **Perfect One**, every way, in its beautiful complete Table and all needed Drawers, etc., and with everything wanted, for Sewing of all kinds, for Hemming, Tucking, Binding, Felling, Braiding, Gathering, etc., etc. We will supply one for $60.00, and will PRESENT one for 75 subscriptions to AMER. GARDEN at $1.00 each. Any Lady can soon get this without expense, for she can find among friends and neighbors 75 subscriptions for so good a Journal wanted by everybody. A few Young People can unite their efforts to gather a club of subscribers and present the Premium Machine to a poor worthy Widow.

28 29

BEST AND CHEAPEST LIGHT.

Look into the WHY of it—Here is some interesting as well as very *useful* information. All Candle and Lamp *light* comes from burning GAS (except in the electricity lamps). The gas for Cities and Villages is made in retorts or large tubes, in which bituminous coal, rosin, oil, tallow, lard, etc. (usually coal), are heated, and the gas produced is carried in pipes to distant burners. In a candle, the *wick* is a little hot *retort* that changes the tallow into a volume of *gas*, which spreads out all around in cone-shape and burns *on the outside* by uniting with the oxygen which makes up one-fifth of the bulk of the air. If the air was a third or half oxygen, the burning would be faster and the light brighter. The same thing occurs in a *lamp-wick*. Kerosene only burns when it is vaporized. All oils and fats are chiefly carbon (coal) and hydrogen. Coal atoms are the same as diamond atoms—both are *carbon*. The gas from coal, tallow, oil etc., is chiefly carbon and hydrogen united. When this gas burns around a candle or lamp wick, its carbon atoms unite with the oxygen atoms of the air, making carbonic acid (the same as that in soda fountains, in bread to make it light, etc.). This union of carbon and oxygen gives out heat, which raises other carbon (diamond) atoms to a glowing heat, thus sending out light. If oxygen *enough* be supplied, some of *its* atoms unite with the *hydrogen* of the gas, to form water, which escapes from the flame as vapor, though invisible, and *this* burning intensifies the heat and light.



NOW APPLY THE ABOVE TO LAMPS.

The lamp-wick sucks up oil by capillary attraction, and changes this oil to gas, which burns. If the wick be clean, and always of the same length down to the oil, the flow of oil into it is *steady* and *uniform*, and *so is the light*. If the oil gets lower, the wick above it is longer, and the flow of oil is *less free and uniform*.

Again, if you have a tube sending air up into the *inside* of the flame, as well as around the outside of it, you get more oxygen *into* it, the carbon is better burned, and the hydrogen is also burned. *Lamps with this inside air-current* burn better and brighter, and *give a good deal more of light from the same amount of oil consumed*. SUCH LAMPS PAY THEIR COST SEVERAL TIMES A YEAR, by *using less oil for the same amount of light*, and a far better one. Now, we can see and understand WHY the Lamp called the **German Student Lamp** is the *best* and *cheapest*, not only for students, but for **EVERYBODY.** On one side is a double oil Reservoir, from which the hollow cross-bar carries oil over to the Burner. This reservoir is so arranged that it lets out oil to its bottom cup as fast as the oil sinks a twelfth of an inch or so. *This keeps the oil in the burner always at the same hight around the wick*, and you get a STEADY FLAME. New arrangements in the reservoir keep the oil from spilling. The BURNER of this lamp has several ingenious contrivances, the most important of which is the *ir-current inside the flame*, which is made very rapid by a peculiar shaped, tall chimney. So this is a PERFECT LAMP, *saving much oil*, and giving *a clear, steady light*, more important in SAVING YOUR EYES than a hundred times its cost.

It stands on a heavy base, is ornamental, in polished Brass, or in beautiful Nickel which looks just like Silver, and never tarnishes. For $4.50 we supply the Brass Lamp of the best make, including Chimney, white glass Shade, etc.; and for $5.00 will supply the beautiful Nickel one. We will **Present No. 28**, the Brass one, for 9 subscribers to AMER. GARDEN, at $1.00 each; or the Nickel one (**No. 29**) for 10 subscribers.

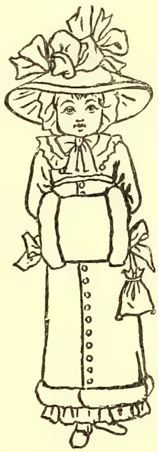
☞If to be forwarded by express, send twenty-five cents for box and packing.

30

JUST HOW TO MAKE THEM.

EVERY LADY in America, young and old, and all the GIRLS, too, will be greatly delighted with a *New Book*, costing but a trifle, yet giving **400** beautiful Illustrations and Patterns of **Fancy** and **Needle Work**, in wonderful variety, with plain directions how to make at home. It is even worth many times its cost to keep to look at. The eminent writer, JENNY JUNE, says of this Book:

"*It supplies within its compass a greater variety of excellent designs, every one of which is useful for dress or household decoration, than have ever before been gathered within the leaves of one Manual.*"



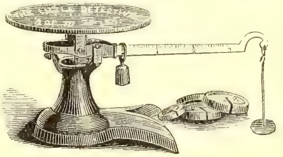
This is not too high praise. It is a Reliable Book for Daily Reference, enabling one to do artistic Embroidery, Lace Work, Knitting, Tatting, Crocheting, Macrame Lace Work, Net Work,—indeed, all kinds of Fancy Needle Work. This **Valuable Book** is beautifully printed on fine tinted paper, with handsome cover. It is entitled "*The Ladies' Manual of Fancy Work.*" But this does not fully express its real, practical, and general value. For fifty cents we will send a copy of the above Book anywhere, post-paid, or we will PRESENT a copy in return for 2 subscriptions to THE AMER. GARDEN at $1.00 each, and send an *extra copy* for every additional *new* subscriber.

> "A False Balance is abomination to the Lord:
> But a just weight is his delight."—PROV. xi. 1.

A VERY GREAT CONVENIENCE

For every House, of Excellent Quality, and at only One-third of Former Cost!

A thousand times a year every Family finds it convenient to know the accurate weight of something—of articles to be sold and those bought (to "detect" cheating or "accident" in weight, so common among dealers, butchers, ice-men, etc.); to salt butter, make cake, put up fruit, etc., etc. Steel-yards are very inconvenient; spring-balances are inaccurate for large weights, and are changeable; when good for pounds, they are quite too large for ounces. Good scales *have* been costly and cumbersome. NOW, in the **"Little Detective Scales,"** we have great convenience, accuracy in weighing anything, from one-quarter of an ounce (for letters and papers and packages for mailing, etc.) up to twenty-five pounds. (Tens of thousands of dealers are now using these on their counters.) They can be set on a shelf, be moved about, have both fine graduated brass scale arm and extra weights, from one to twenty-five pounds. Owing to their good quality, great durability, simplicity, and utility, the immense demand makes it possible to **supply them at one-third the old price for such good scales.**

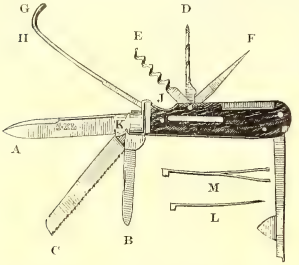


31

For $3.00 we will supply the whole complete, with weights, packed safely to send anywhere. We will PRESENT the same for 6 subscribers to AMER. GARDEN (or 2 of them for 10 subscribers).

A GRAND THING FOR YOUR POCKET.

One of the "handiest things" in the world is the "**Combination Pocket-Knife,**" always with you, ready at hand as a pocket-knife, with large and small blades (A and B), and a great deal more! Folded closely within its strong handle, three and a half inches long, you have (C) a capital **Saw**, to quickly cut off almost anything, from an inch-thick board to a large fruit tree limb, and to saw in two, or in pieces, any wood too hard or large to whittle, etc.; (D) a real good **Gimlet**; (E) an improved **Cork-screw**, to open bottles of medicine, sweet cider, and . . . . ? (F) best of all (inside) a **Punch**, with which you can punch a hole in harness, wood, etc., and with its sharp corners rim the hole out to the size wanted, always handy. (We saw a farmer mending his boots with it.) (G) Covering in all these is a **Hook**, its strong end useful to lift hot kettles, covers, etc.; to open stove-doors, and pry open things generally; to clean animals' hoofs, etc., etc. The back of the Hook serves (H) as an effective little **Hammer**, and in opening and shutting it forms (J) a small NUT-CRACK. More still! (K) On the outside end is a capital **Screw-driver**, projecting only enough to fit into screw-head, and strong enough to turn one to two-inch screws, and all smaller ones. This is always handy. Then (L) you pull out of the end of the handle a nice, long-pointed **Awl**, and (M) a good pair of **Tweezers**, for picking up insects, extracting briers and slivers, stray hairs on the face, etc., etc. **ALL** the **ABOVE**, all of excellent metal and quality, is done up as a *Pocket Knife*, weighing scarcely four ounces! Every Man and Boy wants it, and we will send one anywhere, post-paid, for $2.71. ☞ Better still: we will PRESENT you one, *delivered free*, if you send seven subscribers to THE AMER. GARDEN at $1.00 each; or two of these knives for 12 subscribers.



32

33
COMBINATION KNIFE "NUMBER TWO."

This is a good deal like the above, only there is not so much of it. It has the same Big Blade (A); the little *Blade* (B); the *Corkscrew* (E); the *Punch* (F); the *Hook* (G), with its Hammer (H), and its *Nut-cracker* (J), though *this* is not of much account in either knife; the *Screw-driver* (K); the *Pointer* (L); and the *Tweezers* (M). It has also, where the Saw might be, a *Lancet*, or *Phleme*, for those who want to bleed (?) horses. This Knife weighs three ounces, and is about the same size as No. 1. We advise you to get No. 1; but if you cannot, this is next to it in the pocket-knife line; and we will send one anywhere (to Oregon, if you live so far off), post-paid, for $1.55; or PRESENT one, post-paid, for 4 subscribers to THE AMER. GARDEN, at $1.00 each (2 Knives for 6 subscribers).

34
A CAPITAL GARDEN LIBRARY.

Probably in no other way can one get, for the same expense, so large an amount and variety of fresh information, with multitudes of Illustrations, as can be found in the past VOLUMES of THE AMERICAN GARDEN. These contain many hundreds of articles, illustrations, etc. We can supply a number of sets of 1882 and 1883, carefully indexed and bound in uniform style, in extra heavy paper covers, for $1.00 per volume, post-paid. We will PRESENT the two for 8 subscriptions; or any *one* volume desired, for 5 subscriptions, all post-paid.

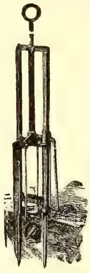
35 EVERYBODY NEEDS THE NEW

American DICTIONARY and Cyclopedia, no matter how many other Dictionaries they may have, large or small. This Book, costing only $1.00 post-paid, is a neatly bound Volume of over **600 pages** (3 columns a page), giving the accurate Spelling, Pronunciation, and Definitions of over **50,000 words,** and 44 pages containing a great number of small engravings illustrating the words. The book is worth far more than it costs for these alone; but it contains in condensed form a VAST AMOUNT of OTHER VALUABLE INFORMATION that *everybody* wants for constant reference. It is in this respect a comprehensive *Encyclopedia*, embracing **84** interesting subjects, too numerous to describe here. Among these are 24 pages of Vulgar and Incorrect Words and Expressions corrected; 30 pages of Difficult Words; 24 pages containing all names in the Scriptures and Apocrypha rightly pronounced; **340** business words and terms explained, such as, "Drafts," "Days of Grace," "Checks," etc., etc.; **400** words and terms used on Ships; 24 pages teaching how to Write and Speak properly and easily; Metrical System explained fully; Tables for readily reckoning Interest; Census (1880) population of States, etc., including 250 Large Cities and Towns; 53 past years' Prices for Wheat, Flour, Corn, Cotton, Sugar, Coffee, Beef, Butter, Iron, etc.; 500 common Names of Men and Women, their derivation and meaning; Mortality Rate, and how long a person may on the average expect to live beyond any age; Wages Tables, etc., etc.,—to 84 subjects.

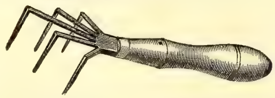
We will mail the above comprehensive and most valuable work, post-paid for, $1.00. We will PRESENT it, post-paid, for 2 subscriptions to AMER. GARDEN at $1.00 each.

36
MOLES! MOLES! MOLES! MOLES! MOLES!

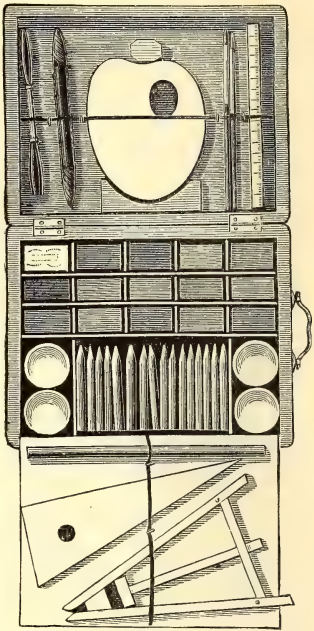
Moles in the garden, lawn, parks, fields, or anywhere, are an unmitigated nuisance. Their subterranean plowings disturb anything growing above and sadly mar the surface. As sacrilegious as a jackal, they enter our cemeteries and disfigure the grounds smoothed and sodded by loving hands. Dogs and cats seldom catch them; poison is ineffective; traps are our main defense. There are traps and traps, scores of kinds, but only one that comes up to what is wanted, viz., **Hale's Mole Trap.** It is all metal, light, neat; is quickly and easily set, without injuring one by snapping; its points, while not dangerous to chickens, etc., strike the deepest furrows; and it catches the mole running in either direction. It can be set close alongside of plants, stakes, fences, and walls; in short, is just what is wanted. If moles appear, get this trap and clear them out; catch the first-comers before, by rapid multiplication, they overrun you. We will supply one for $2.50; OR, **Present** one for six subscriptions to THE AMER. GARDEN at $1.00 each. Directions for use with each instrument. Sent anywhere by express, well packed. Receiver pays expressage.



37
PATENT EXCELSIOR WEEDING HOOK.



Your Fingers Saved.—Some hand-weeding must be done among the flowers, the plants, and the crops. It soils, hurts, and wears out the fingers, though they are the best weeders ever made. But the **steel fingers** of the **Excelsior Hand-Weeder** are very like the human digits, are almost as effective, last many years, and do admirable work. It is the best thing of the kind ever made, and costs only thirty cents when sent anywhere, post-paid. We will **PRESENT** you with one, delivered to you free, for two subscriptions to THE AMER. GARDEN at $1.00 a year each.



38

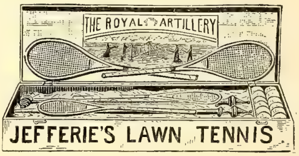
FOR EVERY GIRL, AND THE BOYS, TOO—ALSO FOR LADIES.—A CAPITAL THING, AT UNPRECEDENTED LOW COST.

For amusement, as well as cultivation of taste and useful, practical skill, a Box of good Paints,—fifteen large cakes of different colors, and sixteen various colored Crayons and holders, with Ruler, Pencil, Palette, Easel, etc., all complete, and of a size and quality for actual use, and not mere toys,—is an exceedingly valuable Gift to any little GIRL, young MISS, and for LADIES as well; also for any and every BOY. SUCH an assortment, all arranged in a very strong, tasteful Box, 8½ x 6½ inches closed, or 18½ x 6½ inches open, with Brass handle, etc., we are now able to supply for $2.50, sent, post-paid, anywhere. We will PRESENT the whole, post-paid, for 6 subscribers to THE AMER. GARDEN at $1.00 each.

39

MOIST COLOR PAINTS (Murillo, for painting on china, wood, velvet, etc.).—These are now in very general use. We can supply sixteen cakes of different shades and two filled tubes, in a strong metal japanned Box Case (7¼ x 3¼ inches closed), with rings to open and support it as a palette, and two Brushes, for the low price of **$1.50,** sent, post-paid, anywhere.

We will PRESENT this (**No. 39**), post-paid, for 3 subscriptions to THE AMER. GARDEN at $1.00 each.



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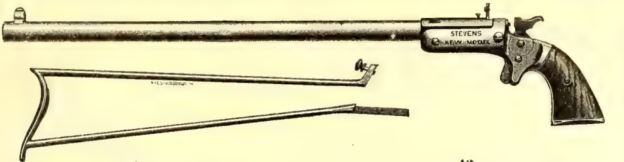
Four Good BATS, six covered BALLS, two portable POLES (in sections to pack in box), one NET thirty-three feet long and three feet high, two GUY ROPES and *Runners*, one Mallet, a Book of Rules—All the above complete in Box, all of excellent quality. We will supply this fine Set for the low price of $15.00. We will PRESENT it for 30 subscribers to AMER. GARDEN at $1.00 each.

(To purchasers, a discount will be made of $1.00 from the price for each three subscribers sent us.)



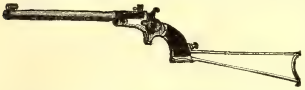
41

GUNS THAT WILL PLEASE.

For FARMERS; for HUNTERS; for SPORTSMEN; for TARGET SHOOTING; for TRAVELERS; for BICYCLISTS — GUNS of GREAT EFFICIENCY in small compass and weight (some for the POCKET); **Breech Loaders**; all of HIGHEST QUALITY and make.

At Low Prices. Also at **NO COST.**

We are no "shootist," only now and then shooting a little for recreation and health; but we have a little **Stevens Pocket Rifle** with 10-inch barrel (12¾ inches long, including its stock) and weighing 11 ounces (11¼, to be exact), which we sometimes carry slipped down inside the vest, and here is **what we have done with it**: At a distance of 75 feet we hit a target, the size of the "Buzzard Dollar" (U. S. coin so called), *eight* times in *ten* shots; at 100 feet we hit a small Blacking-box Cover *nine* times in *ten* shots (not enough left of it to hit more); at 300 feet we put 12 out of 15 shots into the top of a Hat Crown. To do this we slipped in the little Breech-Piece (carried along, as it weighs only 4 ounces and is as good as a heavy large one). By the way, we brought a gray squirrel out of the top of a very tall pine tree at first shot, and have killed not a few birds, etc., at long, unmeasured distances. This gun carries bullets of .22 caliber, is of A1 quality, is beautifully nickel-plated, and is a **Breech Loader**. (We have loaded and fired it at a mark 7 times a minute.) It costs $11.00. (They now make a Gun just like it, with a *heavier* barrel, which shoots .22 or .32 caliber bullets, good for a "deer a long way off.") This costs $12.25 (weight 25 ounces); and another, 12-inch barrel, that costs $13.50; a 15-inch barrel for $15.00, and an 18-inch barrel for $16.50.



"THE HUNTER'S PET" — and may well be anybody's pet — is very like the above, but larger, or 18-inch, 20-inch, 22-inch, and 24-inch barrels, and of any caliber desired, .22, .32, .38, or .44. The 18-inch weighs 4½ lbs. These are *splendid shooters* for 100, 200, 300 yards, and more. Prices: 18-inch barrel, $18.00; 20-inch, $19.00; 22-inch, $20; 24-inch, $21.00.

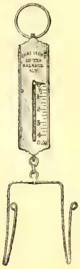
All the above Guns are the very BEST A1 Make; all are finely nickel-plated, except the steel barrel and the fine walnut in the short breech. All are *Breech Loaders*, and have Combination Sights. All are good for target shooting and for hunting game. All are excellent for Bicyclists and for Travelers, as the movable breech allows easy packing in a trunk — the smaller ones in a hand-bag. All are very cheap for the quality.

We supply any of the above at the prices named.

BETTER STILL.—We will PRESENT any one of them for subscriptions to THE AMER. GARDEN at the rate of 2 subscriptions for $1.00 of the price of any Gun. To purchasers, **$1.00** from the price, for each 3 subscriptions sent us.

TO WEIGH LETTERS AND OTHER THINGS.

42

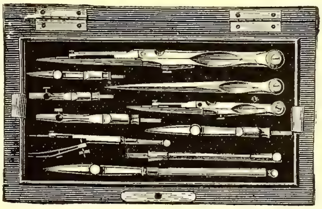


For weighing letters, newspapers, and other parcels up to four ounces, the **"Post Office Spring Scales,"** are very convenient. This can be held in the hand, or hung up anywhere, the letters, etc., dropped into its long double hook, when its index will show the weight very delicately in quarter and half ounces up to a quarter-pound. Nickel-plated face, hooks and suspending ring; a neat, strong, durable Scale. We send it post-paid for 75 cents, or PRESENT it post-paid for two subscribers to AMER. GARDEN.

43

THE FIVE MOST IMPORTANT THINGS

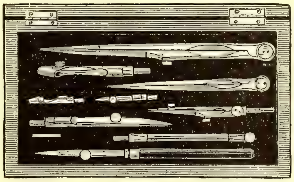
IN EVERY HOUSE, and to every person, are: Food, Clothing, the Bible, a Dictionary, and a Cyclopedia. The Dictionary is necessary to speaking, pronouncing, and writing correctly; the Cyclopedia to give needed information about everything. But **WEBSTER'S GREAT UNABRIDGED DICTIONARY** not only tells about every word used in our language, how to spell and how to pronounce it, where it comes from, etc., but it tells so much about each word, that, for ordinary use, it answers for a Cyclopedia also. Good Cyclopedias cost from $40 to $100. This magnificent volume, *Webster's Unabridged Dictionary*, is a Great Book every way. Its presence in any home shows more good judgment and culture than a hundred times its cost in fancy furniture. In *size* it is **12** inches long, **10** inches wide, **4½** inches thick, and weighs **10** lbs. It has **1850** great pages of 3 columns each, packed full, including **118,000** words fully described, with **3000** engravings. It includes Proper Names, Scripture Names, Names of Counties, Cities, Towns, etc.—We will supply it for $12, or PRESENT a fine leather-bound copy for 20 subscriptions to AMER. GARDEN. It will be delivered at the office, or sent by express, unpaid.



44

A SUPERB SET OF INSTRUMENTS.

The Engraving shows something of a most valuable set of **Drawing Instruments**, that cannot fail to be *useful* to any one, young or old. The instruments in sight are each fitted in its place in a velvet tray, under which is a Boxwood rule, etc. The upper silk cushion, that shuts on the instruments, has behind it a transparent barred Semicircle accurately graduated, through 190 degrees, to degrees and half degrees. The Box is neat Rosewood 8¼ x 4¾ x 1¾ inches. The Instruments are all Steel and fine German Silver, with adjustable parts. We supply this magnificent set for $7.00, delivered anywhere, carriage prepaid. We PRESENT it delivered for 15 subscribers to THE AMER. GARDEN at $1.00. each. (To purchasers a discount of $1.00 will be made for every 4 subscriptions.)



45

DRAWING INSTRUMENTS, as shown in engraving, in Brass and Steel, fitted in velvet, with Brass semicircle, in imitation mahogany box, 7¾ x 4⅜ x ⅞ inches. We supply this for $2.25, carriage prepaid, anywhere in the United States; or PRESENT it, carriage paid, for 5 subscribers to AMER. GARDEN at $1.00 each.

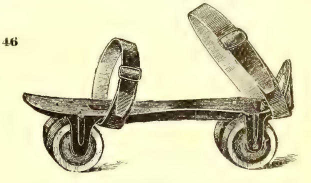
46

SKATING ALL THE YEAR, EVERYWHERE.

Yes, even in the Torrid Zone. The recent great improvements in *Roller Skates* enables any one to skate at all seasons and in all climates, independent of ice or weather, and not only in the "Parlor," or on smooth flagging, but on any hard road or other comparatively smooth surface, with all the enjoyment and exhilaration formerly obtained only on winter's ice when it chanced to be smooth. These skates will do much to promote the Health of the Girls and Young Ladies as well as of boys, and this benefit extends all through the year and all over the world.

The N. Y. Club Roller Skate is one of excellent make, with improvements and advantages too numerous to be described here, including the best quality of leather straps, decarbonized steel frames, superior rollers, etc., etc. We will send a Pair anywhere, post-paid, for $1.25. We will **present** a pair for 3 subscriptions to THE AMER. GARDEN at $1 each; or 2 pairs for 5 subscribers.

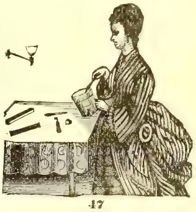
46



N. B.—Send a paper cut to the size of your shoe sole, and we will select skates of right size.

COPPER WORTH MORE THAN SILVER!

A pound of silver costs about $17.00 in the "Buzzard Dollar" (or about $14.50 in the bar), and a pound of copper about thirty cents in the bar (or about $1.40 in United States currency). But, for *many* uses, copper is worth more than silver, pound for pound. Here is one: If you have in the house a few ounces of copper, in a wedge-shape, like an ➢ fastened by an iron rod to a wooden handle, you can with it save many ounces (or dollars) of silver every year, besides a great deal of time and vexation. Tin ware, so much used by housekeepers, is made of thin sheets of iron, very lightly coated with tin by dipping them into it melted. The iron sheets are strong, but rust quickly; the tin coat is soft, but does not rust easily; it wears off, and so the tin things,—the pails, pans, cups, dippers, etc., etc., if much used, are always getting holes and leaks. The tinsmith, or "tinker," quickly stops these with a bit of solder, which is mostly tin. *Any one can do this herself* (or himself, boy or man) quickly, easily, almost at no cost, and thus save waiting, save sending twice to the smith — once to carry it and once to get it a day or a week after, and save expense. So, also, when the fruit cans are ready, you can quickly solder them independent of the smith, and with your copper open them also when wanted. The copper can be heated in your own stove — no charcoal dust and muss around. All you need is a soldering iron (copper), a stick of solder, a little rosin, a steel scraper to clean the surface, and, for a badly rusted one, a bottle of soldering salts. With these and a trifle of practice, you are independent and can save in a year a good many dollars by making the tinware last longer, and in time, and expense for the smith or tinker. HERE you have all that is required, neatly packed in a box, handy to put away and handy to get at, in the GEM SOLDERING CASKET, and all for $1.00. Sixteen cents extra will carry the casket and its contents to any part of the United States. We will supply you one for $1.00, or send it, postage paid, for $1.16. Or, we will **Present** the whole, postage prepaid, to any friend sending 3 subscribers to THE AMER. GARDEN at $1.00 each.



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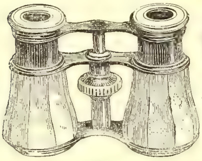

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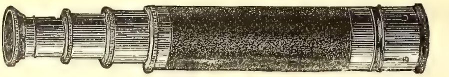

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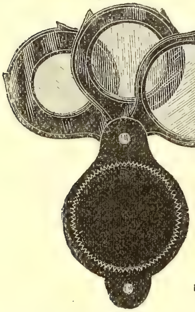

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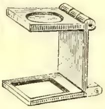

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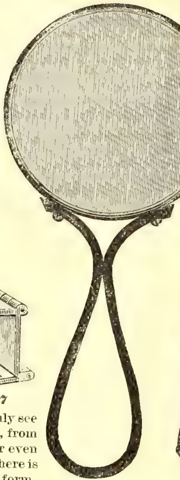

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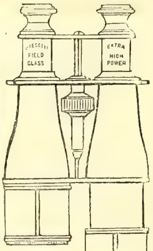

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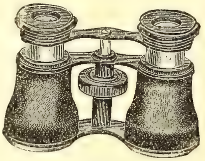

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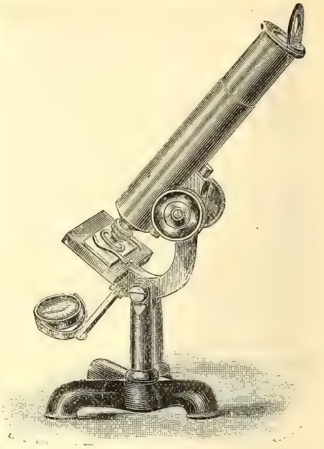

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MICROSCOPES.—Our natural eyes only see objects within certain limits in size, say, from the point of a needle upward. But smaller even than anything we can see with our eyes, there is a world of things of wondrous beauty and form, *a thousand times more numerous than all we do see,* a world that everybody should see and *can* see. We have some glasses so arranged that we can see, examine, and *measure* insects so small that a common thimble will hold twice as many of them as there are inhabitants in all the world! And we can see their heads, eyes, bodies, etc. The glasses that enable us to *see small things* are called, **MICROSCOPES**. A common sun-glass, or reading-glass, gathers and brings extra rays of light to the eye and is really a simple Microscope. There are hundreds of forms and sizes. Then there are sets of several glasses or lenses put together so that they gather the rays, bring them inside and form an image there; the eye looks in through a simple microscope, or eye-piece, which magnifies the *image*, and is thus able to see the thing looked at hundreds and thousands and millions of times larger than the original object, according to the power of the instrument used. Such arrangements are called COMPOUND MICROSCOPES. These are of many forms and prices, from $10.00 for a pretty good one, up to thousands of dollars each.

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No. 49.—Extra fine, crescent frame; tops and branches fine Japan. Slides, Bottom and Branches extra gilded. Barrels covered with fine morocco (light brown or black as desired), with ornamental gilded circles,—closes to 2¼ inches height. Lens 15 lines diameter, of first quality, Achromatic. We supply this safely packed, carriage prepaid, for $8.00. We will present one for 19 subscriptions to THE AMER. GARDEN at $1.00. each.

No. 50.—Splendid *Pearl* Body and Eye-Pieces. Slides and *all* mountings extra gilded. All very beautiful. Lens 15 lines, fine, powerful, Achromatic. We supply this for the low price of $10.00, carriage prepaid. We will present one, carriage prepaid, for 25 subscriptions to THE AMER. GARDEN at $1.00 each.

No. 51.—*Field and Marine Opera Glass.*—Of strong power, extends to 9½ inches, closes to 6 inches. Lens 21 lines diameter, achromatic, strong power. Slides, Caps, etc., fine Japan. Sides and shades covered with fine morocco. Case of strong, firm Leather, with Shoulder Strap. Suitable for land or sea, or large rooms. We will supply this superb instrument for $14.70. We will PRESENT it for 33 subscriptions, carriage prepaid.

No. 52.—TELESCOPE; *Achromatic;* superior quality; fine Morocco-covered body; the 3 slides and object-glass cap all of polished brass; sliding eye-piece cover; extends to 18 inches long, and closes for the pocket to 7 inches long and 1⅜ inches in diameter; magnifies *fifteen times;* object-glass, 14 lines; weighs 13 ounces. In neat, strong Case. We supply it, post-paid, for $4.00; or PRESENT it, post-paid, for 9 subscriptions to AMER. GARDEN at $1.00 each. [See engraving.]

No. 53.—TELESCOPE, every way like the above (No. 52), except larger. LENGTH, 8½ inches closed; 24 inches opened; 16 lines object-glass; magnifies *twenty times.* Price, $5.37, delivered free; or PRESENTED, delivered, for 12 subscriptions.

No. 54.—TELESCOPE, every way like the above (No. 52), except in size. Length, 6 inches closed; 24 inches opened; 16 lines object-glass; magnifies *thirteen times.* Price, post-paid, $3.10. Presented for 7 subscriptions.

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The engraving shows the instrument (in part) which is three times as large as this picture. It magnifies objects from **2500** to **10,000 TIMES** their natural size, and even more if desired (*50 to 120 diameters).* See description of "microscopes" in another column.

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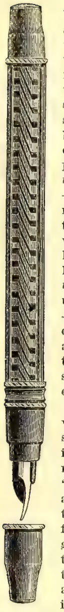
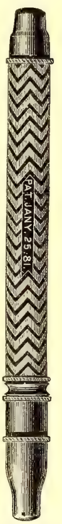
Just See those People Write—An Amusing Scene—"Dips."



Did you ever carefully watch a number of people *writing* together in the same room? If not, do so, and you will find it very amusing indeed. No two will act alike. One sits bolt upright; others bend their heads forward, right, left, every way. One sits still; others constantly move necks, shoulders, heads,—one making a direct bow to every long letter, and others a quartering one. Every second or third person has a particular position of the *tongue* in his cheek, teeth, or mouth,—in short, there is a distinct "mannerism" in every writer, aside from the letters he makes on paper, that would enable you to name each of a large party of writers if standing behind them. Try the experiment. *But they all agree in one thing,*—they keep up an everlasting "dip," "dip," "dip"—in the inkstand. And in this they differ greatly. One does it deftly; another makes an "inky way" between bottle and paper, often on to it, saying nothing of blots, soiled fingers, etc.

CURIOUS FIGURES.—Ordinary writers take a "dip" about every 40 seconds, depending upon the kind of ink, pen, etc., and this "dipping" means a great deal. As the previous "dip" runs out the letters grow faint, and the next ones are over-inked. On the average it takes at least one-fourth of all the time to go for ink and get the pen back and properly join on the words or letters where you left off to "dip." This is a serious loss of time and a bad interruption to a man writing figures, and especially to one putting down a train of thought. A dozen persons, writing steadily and rapidly for a single hour, will take about a *thousand* "dips." A clerk or business man writing a dozen years has spent one to three years in taking "dips"! (Not "tips," mark you.)


PAT. JANY 25.81.

All the above easily saved, and other disadvantages. We write this with a first-rate Gold Pen that has not taken a single "dip" in four days, though it has written over thirty pages of letters! When it stops, we can in one minute give it a new supply of ink that will last as much longer. It is **"PURDY'S PERFECT POCKET PEN."** It is always with us, ready on the instant, at home or abroad, in the business office, in the study or library, in the cars, in the hotel room, EVERYWHERE! No inkstand needed. It is used in place of lead pencil, always ready pointed, and an *indelible* one, too. *It pays for itself every month in the year!* In every house it will save table covers and carpets enough to pay for itself. It is very durable and, allowing a round interest on its price and a good "sinking fund" on the purchase money, it does not cost a cent a week! You, and your Wife and your Children, and your "cousins and sisters and aunts" and uncles too, *want* it. Its Gold Pen is the best. Its holder is neat, hard rubber.

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N. B.—In sending for the pen, say whether you want a *stiff* or *limber* or *medium* one. If the first does not suit your hand, you can exchange it for another at the cost of postage each way.

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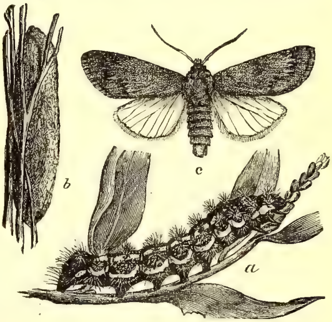

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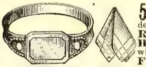

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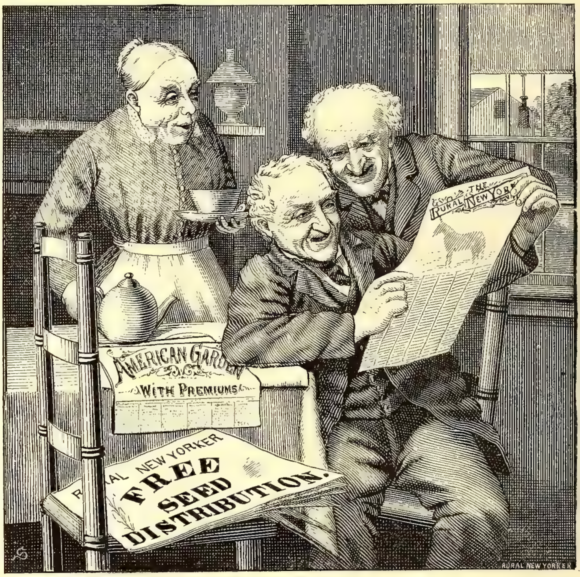

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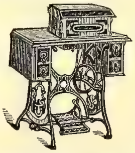

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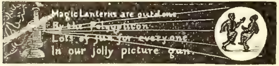
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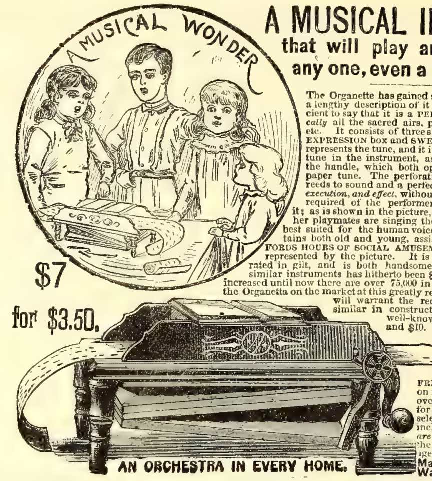
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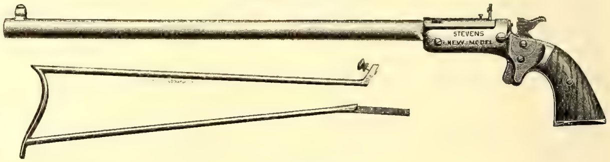

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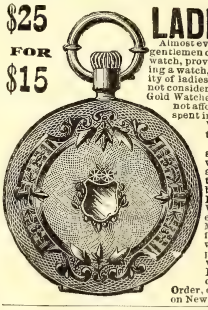

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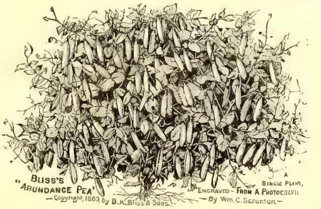
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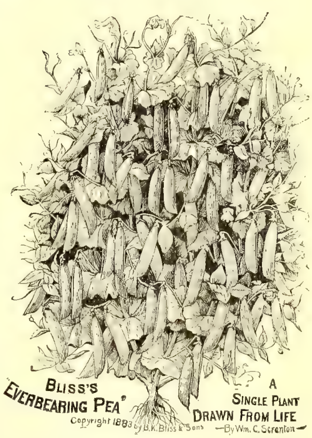
—By Wm. C. Scranton.—



Encouraged by the flattering and unprecedented success which Bliss's American Wonder Pea has met in all parts of the civilized globe, it affords us great pleasure to offer now **two other new** varieties by the same originator, the late Mr. CHARLES ARNOLD, of Canada, which, we are confident, will be received with no less favor.

BLISS'S ABUNDANCE.

Half dwarf, 15 to 18 inches high; foliage large, thick, full, and dark-green; pods 3 to 3½ inches long, roundish and well filled, containing six to eight large wrinkled peas of excellent quality.

It ripens second early, being fit for the table about one week after the earliest kinds. The most striking feature of this variety is its remarkable tendency for branching directly from the roots, forming a veritable bush. Many plants throw out *six and more* branches, each of which becomes literally covered with blossoms and pods in such ABUNDANCE that the quantity produced by each branch would be considered a bountiful yield for an entire plant of many of the older varieties. **In succession** to the *American Wonder*, for home use or market, this variety presents more desirable points than any other we are acquainted with.

Sold in packets only, 25 cts. each; 5 pkts., $1.00.

BLISS'S AMERICAN WONDER PEA.

BLISS'S
AMERICAN
WONDER

Extra Early, Very Dwarf (8 to 10 inches), Requires no Bushing, Exquisite Flavor.

BLISS'S EVERBEARING.

The want of a reliable first-class Pea for summer and autumn use has long and seriously been felt by every one. With this *new* and *remarkable* variety, we are confident to place before the public a Pea which, when sufficiently known, will everywhere be recognized as the main dependence for a summer and autumn crop. Season late to very late; height of vines, 18 to 24 inches; foliage very large, firm, and bright green; pods 3 to 4 inches long on the average, six to eight peas in each pod, wrinkled as the preceding; quality *unsurpassed* in sweetness as well as flavor. We do not hesitate to say that, for continuance of bearing, this variety is *unexcelled* if *equaled*, a characteristic which gives it especial value for late Summer and Autumn use. After repeated pickings, the vines continue to be covered with blossoms and buds, developing to maturity in turn until cut down by frost, making it practically as perpetual a bearer as can be found in the Pea tribe.

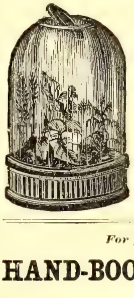
Sold in packets only, 25c. each. 5 pkts., $1.00.

With the introduction of our now *world-famed* **AMERICAN WONDER,** the highest degree of *earliness* and *productiveness*, combined with excellence of quality, has been secured.

ABUNDANCE adds *another link* to the unceasing continuance of abundant and delicious supply through midsummer, while **EVERBEARING** *extends the chain of the richest* and *most valued* products of the garden and field through Summer and Autumn, thus furnishing an uninterrupted and *never failing* supply from the earliest days of summer till the relentless frosts and winter snows lay low our plants and bid the gardener rest.

On account of the scarcity of seed of these TWO NEW varieties, we shall not offer them in larger quantities than ¼ *pint packets*, 25c. *each, or 5 packets for* $1.00.

American Wonder. Per packet, 20c.; pint, 40c.; quart, 75c., by mail post-paid. If by express, at expense of purchaser; pint, 30c.; quart, 50c.; peck, $2.50.



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FERN BASES AND FERNERIES IN TERRA COTTA AND WOOD.

We now offer at reduced figures Fern Bases of various patterns and sizes.

Terra Cotta Ferneries (Imitation Rustic) 8¾ in., $1.50; 10 in., $2.50; 11 in., $3.00; other patterns, from 8 to 12 in., from $1.25 to $5.00 each. Glass Shades for the above, from $1.25 upward, according to diameter and height. Glass Shades will be sent at the risk of purchaser. Packing, 50c. extra, each, for Shades if sent by express or freight.

Ferns and other plants suitable for growing under shades can be supplied at from $2.00 to $4.00 per dozen.

For further description of the above and other novelties, see our

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300 BEAUTIFUL ILLUSTRATIONS,

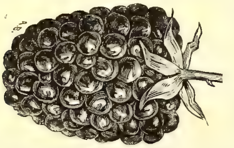
With a richly colored plate of flowers, and a Descriptive Price List of 2,000 varieties of Flower and Vegetable Seeds, Bulbs, Plants, etc.—with much useful and valuable information upon their culture—150 pages; mailed to all enclosing 6 cents to pay postage.

B. K. BLISS & SONS, 34 Barclay Street, New-York.

Free Seed Distribution—82 acres of Experiment grounds; the enterprising Rural New-Yorker, the best paper of its class. Specimen copies free.

34 Park Row, N. Y.

THE AMERICAN GARDEN, and the RURAL NEW-YORKER with its rare Seed Distributions, will be sent post-paid all one year for only $2.50.



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The largest, best, and most productive Early Blackberry, 3¼ inches around, from Seed of selected WILSON'S EARLY.

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100,000 PEACH TREES,

Strawberries, Raspberries, Grapes, etc. Catalogue with COLORED PLATES, FREE.

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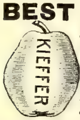

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New Blackberry, early, hardy, good. Single hill yielded 13 quarts at one picking. Send for free Catalogue.
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TYLER, SOUHEGAN HANSELL, Lost Rubies, SHAFFER.

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H. S. ANDERSON, Cayuga Lake Nurseries,
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VALUABLE TESTIMONIALS.

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ELLIS'S SPAVIN CO.
ELLIS'S SPAVIN CURE

TRADE MARK.

DUNN & SCHURK Boarding and Sales Stables, 148 East 24th St.
NEW-YORK, Aug. 1st, 1883.
ELLIS SPAVIN CURE CO.

Dear Sirs: We were having an occasion to put a valuable horse in condition for a race. In giving the horse his work he threw out a curb, in consequence of which I would have sold him, at that time, for three hundred dollars ($300), or less. Hearing of Ellis's Spavin Cure Liniment, I tried it with good results. In two weeks the curb was gone and the horse was going sound. I put him in condition again, and in two months we sold him for as many thousands as we valued him worth hundreds when he had the curb. The horse is at present boarding at our stable and being driven on the road every day. We can safely recommend your Spavin Cure Liniment for all bone diseases and callous lumps of any kind, if properly used.

Yours, with respect,
DUNN & SCHURK.

STARRIN PLACE STOCK FARM,
FULTONVILLE, Montgomery Co., N. Y., July 24, 1883.
THE ELLIS SPAVIN CURE CO.—*Gentlemen:*

Remedies received in good shape. Send me a glass sign by express, to Fonda, well packed, and I think it will come all right. Also send me some of those cards with a horse head and shoe on. *I have taken off several curbs, "one very bad";* cured a case of *Sweeney* and *Navicular* disease with the *Spavin Cure,* and *restored several worn-out horses* with the *Powders.*

Yours respectfully,
CHANDLER QUINTIN, V. S.

J. H. Whitson & Son, 24th St., N. Y., say: "We have used Ellis's Spavin Cure in our stables for two years, and have tried it on the following with perfect success: Splints, curbs, ring-bones, bunches on the neck, swelled ankles, also quinsy sore throat, and for general stable liniment it is the best article we have ever used."

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"Too much cannot be said in praise of your most valuable remedies," says Langan Bros., N. Y.: "we have produced results with them such as we have not been able to do with any others."

Send for free book of testimonials, describing all our specialties.

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1884. SEASON 1884.

The past fine Summer has matured fine Stocks of

GLADIOLI, LILIES AND ALL OTHER BULBS.

PLANTS of every description have succeeded admirably.

The accession of so many **VALUABLE NOVELTIES** is unprecedented.

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POCKLINGTON, DUCHESS, LADY WASHINGTON, VERGENNES, MOORE'S EARLY, JEFFERSON, EARLY VICTOR, BRIGHTON, PRENTISS

Also other Small Fruits, and all older varieties Grapes, Extra quality. Warranted true. Cheap by mail. Low Rates to Dealers.

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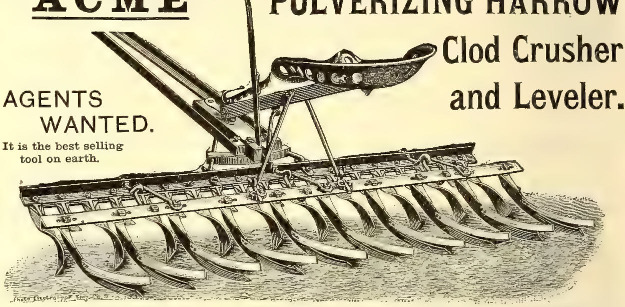
AGENTS WANTED.

It is the best selling tool on earth.



The **"ACME"** subjects the soil to the action of a **Steel Crusher** and **Leveler,** and to the **Cutting, Lifting, Turning** process of *double gangs* of **CAST-STEEL COULTERS,** the peculiar shape and arrangement of which give **immense cutting power.** Thus the three operations of **crushing** lumps, **leveling** off the ground, and thoroughly **pulverizing** the soil are **performed at the same time.** The **entire absence of Spikes or Spring Teeth** avoids pulling up rubbish. It is **especially adapted** to inverted sod and hard clay, where other Harrows utterly fail; works perfectly on light soil, and is the only Harrow that **cuts over the entire surface** of the ground.

We make a variety of Sizes working from 4 to 15 Feet Wide.

DO NOT BE DECEIVED. Don't let your dealer palm off a base imitation or some inferior tool on you under the assurance that it is something better, but SATISFY YOURSELF BY ORDERING AN "ACME" ON TRIAL. We will send the *double gang* Acme to any responsible farmer in the United States on trial, and if it does not suit, you may send it back, we paying return freight charges. We don't ask for pay until you have tried it on your own farm.

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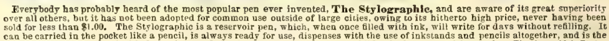

Everybody has probably heard of the most popular pen ever invented, **The Stylographic,** and are aware of its great superiority over all others, but it has not been adopted for common use outside of large cities, owing to its hitherto high price, never having been sold for less than $1.00. The Stylographic is a reservoir pen, which, when once filled with ink, will write for days without refilling. It can be carried in the pocket like a pencil, is always ready for use, dispenses with the use of inkstands and pencils altogether, and is the most valuable article of the kind ever invented for the use of man, woman or child, who has any writing to do. The beautiful Stylographic Pen illustrated above is a first-class and perfect working instrument. It consists of a drawn glass tube, which contains the ink, one end of which is brought to a smooth, delicate point for writing, with an aperture finer than the point of a needle, through which the ink always flows freely, while the other is fitted with a rubber cork air valve, and a cushion, giving it the elasticity of a gold pen. This tube is fitted, by means of a telescopic screw, in a beautiful polished nickel case, from which the pen point protrudes, and when not in use the point is protected by a nickel cap, as shown in illustration. This pen is in every way superior to the best gold pencil, as it *writes with ink.* It is something that everybody needs and should have, and we will now tell you how you can secure it, *free of cost!* Being the publisher of the old-established and well-known family paper, **The Cricket on the Hearth,** and wishing to obtain for it 100,000 new subscribers during the next few months, we now make the following unprecedented offer: *Upon receipt of* **Twenty-six Cents** *in postage stamps, we will send* **The Cricket on the Hearth** *for* **Three Months,** *and to every subscriber we will also send* **FREE** *and post-paid,* the **Genuine Stylographic Pen,** *as above described.* THE CRICKET ON THE HEARTH is a mammoth 16-page, 64-column *illustrated* paper, filled with charming Serial and Short Stories, Sketches, Poems, Useful Knowledge, Puzzles, Games and Stories for the Young, Wit and Humor, and everything to amuse, entertain and instruct the whole family. That this is a great bargain no one can deny, and the offer is made simply to introduce our paper. Take advantage of it at once. Remember, the Stylographic Pen, which has heretofore been sold at $1.00, is now given *absolutely free* to every one sending for a three months' subscription to the paper. For $1.00 we will send five subscriptions and five Pens. *Satisfaction guaranteed or money refunded.* As to our reliability, we refer to any publisher in New York. Address, **S. H. MOORE, Publisher, No. 8 Park Place, New York.**

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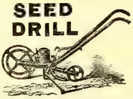

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Send for circular, showing improvements for 1883. Made only by **T. B. EVERETT & CO.** Successors to **Everett & Small, Boston, Mass.**

Sawing Made Easy

Monarch Lightning Sawing Machine!

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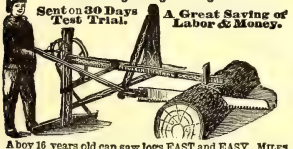

A boy 16 years old can saw logs FAST and EASY. MILES MURRAY, Portage, Mich., writes: "Am much pleased with the **MONARCH LIGHTNING SAWING MACHINE.** I sawed off a 30-inch log in 2 minutes." For sawing logs into suitable lengths for family stove-wood, and all sorts of log-cutting, it is peerless and unrivaled. Illustrated Catalogue, **Free. AGENTS WANTED.** Mention this paper. Address **MONARCH MANUFACTURING CO., 163 E. Randolph St., Chicago, Ill.**

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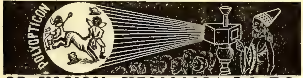

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with which Chromo Cards, Photographs, Prints from Books, Coins, Works of a watch, are shown instead of Glass Slides. *No end of amusement at small cost*

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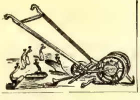

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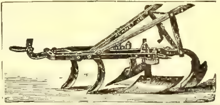

A $25.00 BREECH LOADING GUN FOR ONLY $13.00

DOUBLE BARRELED STRONG ACTION
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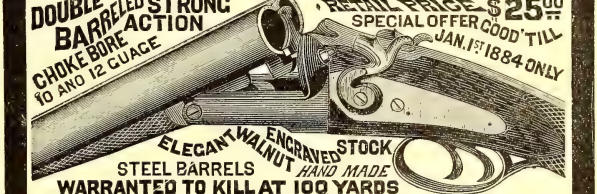
10 AND 12 GUAGE

RETAIL PRICE $25.00
SPECIAL OFFER GOOD TILL JAN. 1ST 1884 ONLY



ELEGANT WALNUT ENGRAVED STOCK
STEEL BARRELS HAND MADE
WARRANTED TO KILL AT 100 YARDS

The "Richards" Double-Barreled Breech-Loading Shot Gun

Is one of the **MOST WONDERFUL BARGAINS EVER OFFERED IN SPORTING GOODS.** The price at which we offer this Gun is but a trifle above the ACTUAL COST OF MANUFACTURE and is given for a **Limited Time Only** in order to at once introduce this INCOMPARABLE GUN to the sporting public.

THE "RICHARDS" has elegant fine STEEL BARRELS, ENGRAVED AND POLISHED WALNUT STOCK, strong and easy action, CHOKE OR STRAIGHT BORED, **10 or 12 GAUGE,** has the Automatic Shell Ejector, and uses either paper or brass reloadable shells. The barrels are from **28 to 32 inches** in length, and its weight is from **7 1-2 to 9 1-2 pounds.** All of the working parts are of the FINEST ENGLISH STEEL, and are CASE-HARDENED AND BLUED, making them durable and lasting. Its action directly in front of the trigger guard IS THE STRONGEST, MOST SIMPLE AND DURABLE in the world. It can never get out of order. For ACCURACY, POWER, BEAUTY OF WORKMANSHIP, CLOSE AND STRONG SHOOTING QUALITIES, as well as the rapid manner in which it can be loaded and fired, **cannot be excelled.**

THE ENGLISH MANUFACTURERS, for whom we are SOLE AGENTS, have instructed us to offer a LIMITED NUMBER of these first-class Guns at $12 less than the retail price, in order that they may become as favorably known here as in Europe.

COUPON. This Coupon is WORTH **$12** and will be received as part payment for one of our CELEBRATED DOUBLE-BARRELED BREECH-LOADING "RICHARDS" **$25** GUNS, as above described, provided you cut this out and return it to us with **$13** in cash BEFORE JAN. 1, 1884, but in no case will we sell or ship this Gun for **LESS THAN $25** unless this Coupon is returned with $13 when you order.

EVERY GUN WARRANTED EXACTLY AS REPRESENTED OR MONEY REFUNDED. Our price for this Gun at our store is **$25,** and dealers in the West charge from $30 to $40 each, but in order to more fully introduce them and to do it quickly we make a SPECIAL LIMITED OFFER OF **$13,** provided you enclose the above coupon and $13.00 in cash before Jan. 1, 1884.

ORDER NOW. Even if you have no use for a gun for six months, as it will be a long time before you will be able to procure ANOTHER SUCH BARGAIN, and as a matter of speculation, it is well worth your attention as you can readily **sell this Gun for $25 to $40.**

AGENTS WANTED. The one first ordering from any place will be made our SPECIAL AGENT for their town for our CELEBRATED LOW-PRICED GUNS, RIFLES, REVOLVERS, ETC. CATALOGUES furnished giving wholesale prices. WE MAKE NO PROFIT upon THE "RICHARDS" GUN at $13, our catalogue price being $25, but we know that where one has been sold it has led to the sale of hundreds of dollars worth of our goods at catalogue prices—hence our liberal offer. We sell only such goods as we control, and do not have to pay dealers large profits. We furnish for **THE "RICHARDS" solid brass shells at 50 Cents per dozen, $3.50 per 100.** Reloading Tools (complete set) for $1.75. Paper Shells, 75 cents per 100. Sportsman's Cartridge Belt, holding 25 shells, 50 cents each.

UNSOLICITED TESTIMONIALS. *"The "Richards" Gun, purchased of you last September has far exceeded my expectations. It is a remarkable Gun."* T. H. POOLE. *"I cheerfully recommend the "Richards" as an accurate and strong shooter."* S. J. WILSON. *"I enclose an order for three more Guns, all that have purchased are delighted, can sell a dozen more at $25 each."* C. E. THORNE. *"At our last match I beat all of the crack Guns and carried off first prize, it would take a hundred to buy my Gun."* H. C. CAMPBELL.

"THE "RICHARDS" GUNS purchased by our club last Spring, have given perfect satisfaction, comparing favorably with the Scott, Parker, Colt, or Forehand & Wadsworth. They are certainly wonderful bargains." R. E. REEVES, President of the New York Ducking Club.

We could give hundreds of such testimonials if space would permit. In ordering send P. O. Order, Registered letter, or Bank Draft on New York at our risk, or send some one to purchase for you.

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Heretofore double-barreled breech-loading guns have been held at such high prices that only well-to-do people could afford them. The above offer of E. P. Tiffany & Co., gives our readers an opportunity of buying a first-class gun at a low price

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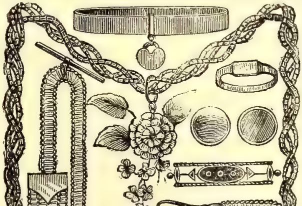

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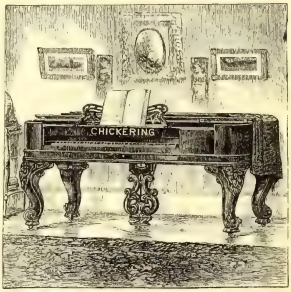

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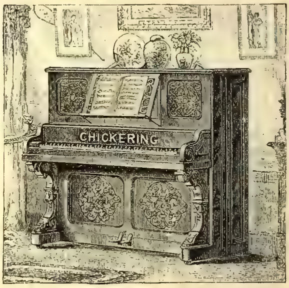

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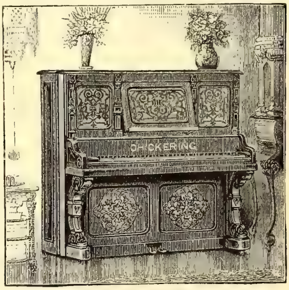

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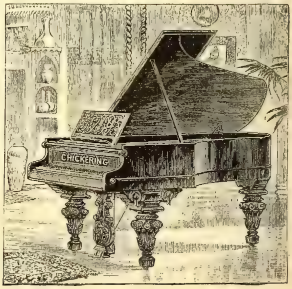

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